

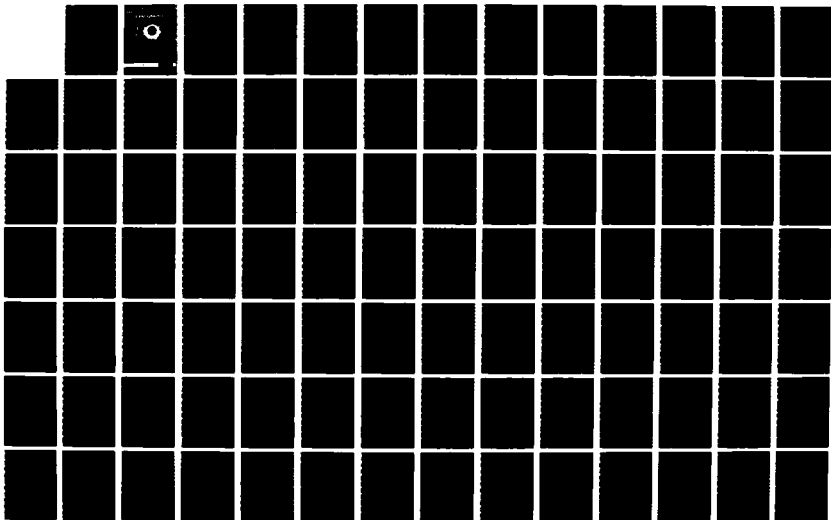
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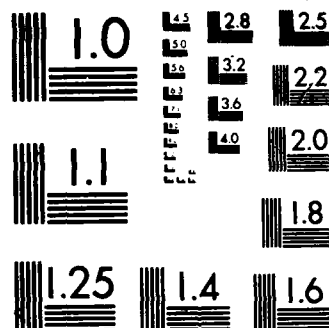
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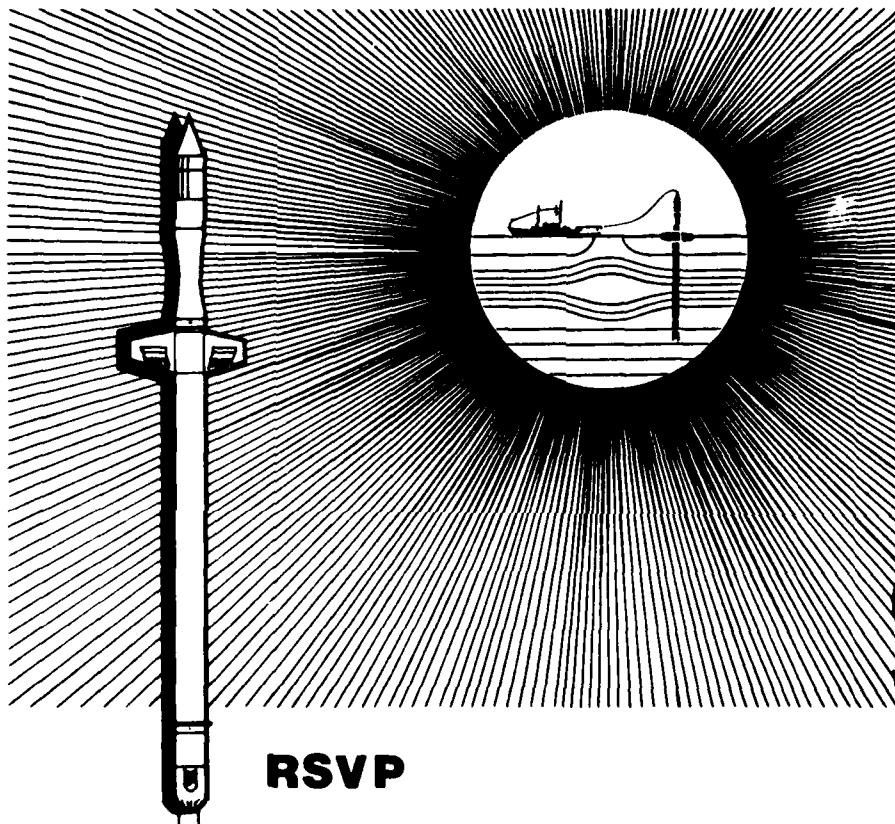
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OREGON STATE UNIVERSITY

COASTAL TRANSITION ZONE
pilot-1987
Rapid-Sampling Vertical Profiler
Observations

by
M. M. Park
J. N. Moum
D. R. Caldwell

Office of Naval Research
N00014-87-K-0242
NR 083-102
College of Oceanography
Oregon State University

Reference 87 20
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Data Report 135

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Temperature, salinity, sigma-t and dissipation profiles from the Rapid Sampling Vertical Profiler for six transects as part of the Coastal Transition Zone pilot experiment, June 1987.		

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COASTAL TRANSITION ZONE pilot - 1987
Rapid Sampling Vertical Profiler Observations

by

M.M. Park
J.N. Moum
D.R. Caldwell

College of Oceanography
Oregon State University
Corvallis, Oregon 97331

REPORT

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Douglas R. Caldwell
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INTRODUCTION

The Coastal Transition Zone (CTZ) experiment was designed to investigate the characteristics of the transition region between coastal upwelling and open ocean off the west coast of North America. The special area of interest was off Northern California. A few previous studies (Kosro and Huyer, 1985; Flament et al, 1985; Reinecker and Mooers, 1977; Bernstein et al, 1977) have noted the strong offshore jets of anomalously cool surface water which are the focus of our study.

The goals of our small-scale surveys were to examine in detail the evolution of a single feature and to determine its reaction to various forcing conditions. The pilot project in 1987 was intended to be exploratory in nature. It consisted of a 10-day cruise (27 May to 07 June, 1987; San Francisco to San Francisco) for which our measurement suite included:

- 1) surface temperature, conductivity and fluorescence measurements;
- 2) high-quality meteorological measurements;
- 3) towed thermistor chain;
- 4) hull-mounted acoustic Doppler current profiler (ADCP);
- 5) Rapid Sampling Vertical Profiler (RSVP).

Based on measurements made by Mike Kosro (OSU) and Jane Huyer (OSU) on the leg immediately preceding our own, we proceeded to examine a strong feature off Cape Mendocino, performing 3 North-South transects following the Huyer/Kosro outer line (see Huyer/Kosro data report). Transects 1 (108 RSVP microstructure casts) and 2 (112 casts) were made at 6 knots with the thermistor chain in tow. The thermistor chain was seriously damaged upon completion of Transect 2. Subsequent transects were made at slower speeds (3-4 knots) resulting in tighter profile spacing (approximately 1 km) and deeper profiles (200+ m). Transect 3 (215 casts) followed 126°10'W all the way from 39°20'N to 41°N, deviating from the Huyer/Kosro outer line at the south end.

We were fortunate to receive high quality facsimiles of satellite infrared images while aboard ship. Based on these images we decided that the feature off Mendocino was breaking up and that the most interesting and coherent feature within the study region was located off Point Arena. Following Transect 3 we proceeded to 39°40'N, 125°W and began a sequence of 3 North-South transects of RSVP/ADCP profiles between 39°40'N and 38°N. Transect 4 (177 casts) was made in light winds (6-10 knots), Transect 5 (202 casts) in increasing winds (4-20 knots) and Transect 6 (101 casts) in high winds (20-30 knots). During each transect we crossed a feature which we can characterize in a preliminary manner as cool, dense and flowing offshore.

INSTRUMENTATION

The RSVP is described by Caldwell et al (1985). Sensors mounted on the nose for the CTZ pilot experiment include a fast-response thermistor (Thermometrics), Neil Brown conductivity cell, pressure sensor and two orthogonally-mounted airfoil (shear) probes from which we have made estimates of turbulent kinetic energy dissipation rates (following Osborn and Crawford, 1980). During the thermistor chain tows, we mounted 2 Seabird conductivity sensors on the chain at 123 m depth. We used these plus thermistors positioned 1 m higher on the chain to compare profiler measurements of temperature and conductivity so that we might detect possible sensor drifts. None were found during the chain tows and agreement was good. CTD profiles were made at the beginning and end of each transect to compare to our conductivity and temperature measurements.

DATA REDUCTION

The primary data acquisition computer sampled six signals from the RSVP; pressure, temperature, temperature derivative, conductivity and two airfoil (shear) probes. The signals were sampled at 60 Hz except the shear sensors which were sampled at 240 Hz. Raw data were stored on magnetic tape and simultaneously sent across a high speed parallel interface to a second computer for further analysis. Plots of individual profiles presented in this report were produced at the time of each RSVP cast. Some adjustments were made to the data after comparison to CTD profiles made at the ends of each transect. Deglitching of spiky data was done on board ship.

Temperature and conductivity raw data were averaged over 128 points (approximately 2 meters at our fall speed of 110 cm/s) for the plot profiles. Salinity and σ_t were computed using the UNESCO 1978 algorithms from the 128-point averages of temperature and conductivity. A comparison of RSVP-computed salinity to a CTD cast at the beginning of transect 1 suggested that the RSVP was within 0.1 ppt. Unfortunately this CTD cast was done in an area of rapidly changing water masses and was considered unsatisfactory for a more precise comparison correction. During transects 1 and 2, further comparisons to Seabird conductivity sensors mounted on the towed thermistor chain at 123 meters and Chain temperature 1 meter above indicated that the RSVP profiles were within 0.1 ppt. RSVP surface values for transects 1 and 2 were compared to a sea chest thermosalinograph system using Seabird temperature and conductivity sensors. In addition, a hull-mounted ADCP (RD instruments) provided surface temperature for further comparison. RSVP surface salinity was consistently high by 0.08 ppt during transects 1 and 2.

CTD comparisons for transects 4 and 5 indicated our instrument had drifted (0.4 ppt at 200 meters) and adjustments were made to bring salinity to within 0.1 ppt at cast 153/36. A change of RSVP profilers at cast 154/16 and additional CTD casts for the remainder of transect 5 and 6 showed RSVP salinity to be within 0.01 ppt.

RSVP temperature and conductivity values averaged over 20 cm were sent to the second, real time processing computer, where calibrations were applied, deglitching performed and these profiles were stored for further analysis. Temperature and σ_t were further averaged over 1 meter and selected at 3, 20 and subsequent 20 meter depth intervals and plotted. These plots have calibration corrections applied from the CTD, towed thermistor chain and thermosalinograph data available during the cruise, unlike the real-time RSVP profiles.

The processing of the outputs from the two shear probes follows the procedure described by Park et al (1985). The turbulent dissipations computed from these data and plotted as profiles here have not been deglitched. Occasional plankton spikes, line glitches and other contaminants are sometimes apparent in the profiles. These were subsequently detected and removed before averaging to produce the summary plots shown.

THE DATA PLOTS

The RSVP profiles plotted are approximately 85% complete with omissions due to failure of the high speed parallel processing system. The entire data set is included with casts roughly every 8 minutes. As noted in the previous section, caution must be used when attempting to obtain absolute values of hydrographic data from the profiles.

Each real-time plot of an RSVP cast contains labeled solid line traces for temperature and σ_t , a dotted line for salinity and a solid trace for dissipation. Vertical and horizontal scales were adjusted to compensate for calibration errors and shifts, and real dynamic changes in instrument signals. The profiler sampled at depths between 150-250 meters. The ship speed determines the amount of line available for free fall and hence, the maximum depth of the profile.

The plots in this report are organized into six transects separated by the colored sheets. Individual profile plots from each transect are preceded by three summary plots. The first plot contains four parameters (wind speed, solar radiation, 100 meter averages of dissipation centered at 60 meters and when available 100m averages of dissipation centered at 160 meters). The dissipation for transect 6 is not yet available. The second and third plots are 1 meter averages of temperature and σ_t

selected from each profile at 3, 20, 40, 60, 80, 100, 120, 140, 160, 180 and 200 meter depth bins (again depending on the profiler's maximum depth). Temperature and conductivity were corrected and salinity and σ_t recomputed to reflect the CTD comparison information available during the cruise.

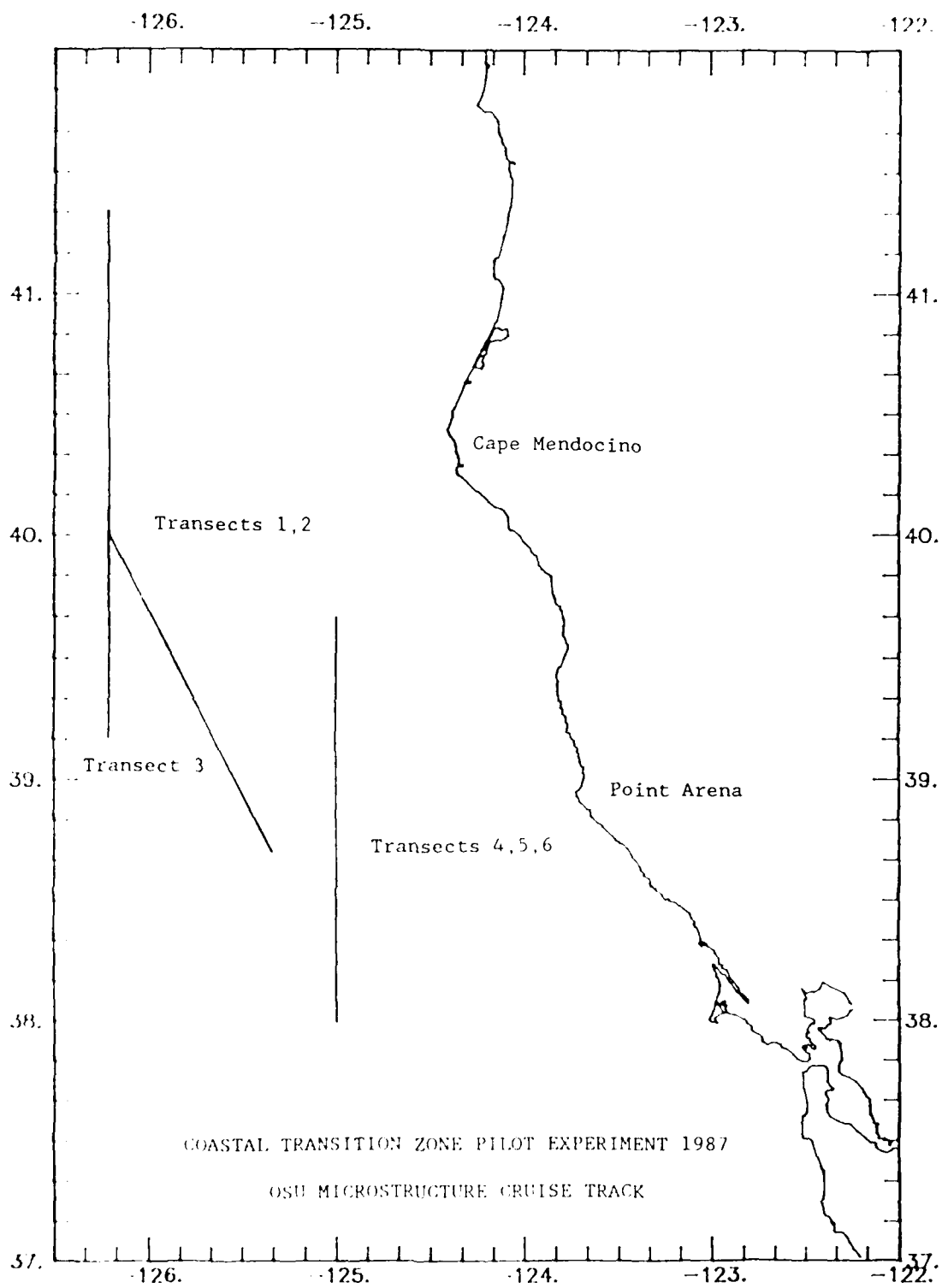
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Transect Summary

Transect	Start Latitude	End Latitude	Longitude	Start Tape/Batch	End Tape/Batch	# Casts
1	38°44.2'N	41°26.4'N	126°10'W	140/01	143/36	108
2	41°27.0'N	39°42.0'N		143/37	145/22	112
3	39°19.2'N	40°59.5'N		145/41	149/45	215
4	39°39.2'N	37°59.3'N	125°00'W	149/46	153/19	177
5	37°58.5'N	39°40.0'N		153/21	157/09	202
6	39°40.0'N	38°00.0'N		157/10	160/36	191

TOTAL CASTS ---> 1005



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140.006,	150.72893,	38.7782,	125.4244	
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140.008,	150.75517,	38.8057,	125.4574	
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140.012,	150.78534,	38.8449,	125.4938	
140.013,	150.79170,	38.8550,	125.5011	
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140.015,	150.80243,	38.8802,	125.5119	
140.016,	150.80734,	38.8917,	125.5168	
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140.018,	150.81804,	38.9168,	125.5276	
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143.018,	151.87207,	41.2332,	126.1637
143.019,	151.87775,	41.2477,	126.1628
143.020,	151.88303,	41.2612,	126.1622
143.021,	151.88837,	41.2749,	126.1615
143.022,	151.89368,	41.2886,	126.1608
143.023,	151.89925,	41.3029,	126.1601
143.024,	151.90456,	41.3165,	126.1594
143.025,	151.90973,	41.3298,	126.1587
143.026,	151.91562,	41.3449,	126.1579
143.027,	151.92110,	41.3554,	126.1577
143.028,	151.92633,	41.3646,	126.1576
143.029,	151.93149,	41.3736,	126.1574
143.030,	151.93657,	41.3826,	126.1573
143.031,	151.94183,	41.3910,	126.1573
143.032,	151.94690,	41.3990,	126.1573
143.033,	151.95386,	41.4100,	126.1572
143.034,	151.95993,	41.4195,	126.1572
143.035,	151.96619,	41.4293,	126.1572
143.036,	151.97253,	41.4393,	126.1571
143.037,	151.97879,	41.4491,	126.1571
143.038,	151.98564,	41.4489,	126.1570
143.039,	151.99223,	41.4480,	126.1568
143.040,	151.99757,	41.4473,	126.1567
143.041,	152.00320,	41.4383,	126.1566
143.042,	152.01062,	41.4180,	126.1563
143.043,	152.01561,	41.4044,	126.1561
143.044,	152.02127,	41.3890,	126.1559
143.045,	152.02698,	41.3734,	126.1557
143.046,	152.03290,	41.3573,	126.1554
143.047,	152.04099,	41.3352,	126.1551
143.048,	152.04657,	41.3200,	126.1549
143.049,	152.05577,	41.2951,	126.1546
143.050,	152.06133,	41.2801,	126.1544
143.051,	152.06627,	41.2674,	126.1546
143.052,	152.07138,	41.2545,	126.1548
143.053,	152.07645,	41.2417,	126.1551
143.054,	152.08163,	41.2286,	126.1553
143.055,	152.08675,	41.2157,	126.1555
143.056,	152.09198,	41.2024,	126.1558
143.057,	152.09734,	41.1889,	126.1560
143.058,	152.10245,	41.1760,	126.1562
143.059,	152.10748,	41.1632,	126.1565
143.060,	152.11267,	41.1501,	126.1567
143.061,	152.11789,	41.1370,	126.1570

TAPE	FILE	TIME	LATITUDE	LONGITUDE
143.062,	152.12305,	41.1239,	126.1572	
143.063,	152.12833,	41.1106,	126.1575	
143.064,	152.13814,	41.0858,	126.1579	
143.065,	152.14317,	41.0731,	126.1582	
143.066,	152.14832,	41.0601,	126.1583	
144.001,	152.15657,	41.0391,	126.1581	
144.002,	152.16168,	41.0261,	126.1580	
144.003,	152.16679,	41.0131,	126.1579	
144.005,	152.17407,	40.9944,	126.1572	
144.006,	152.17920,	40.9813,	126.1566	
144.007,	152.18430,	40.9682,	126.1561	
144.008,	152.18930,	40.9554,	126.1556	
144.009,	152.19452,	40.9420,	126.1551	
144.010,	152.20381,	40.9181,	126.1542	
144.011,	152.21112,	40.8990,	126.1535	
144.012,	152.21989,	40.8753,	126.1524	
144.013,	152.23250,	40.8415,	126.1512	
144.014,	152.23970,	40.8223,	126.1508	
144.015,	152.24844,	40.7991,	126.1505	
144.016,	152.25883,	40.7718,	126.1532	
144.018,	152.30490,	40.6497,	126.1671	
144.019,	152.31218,	40.6298,	126.1689	
144.020,	152.31729,	40.6149,	126.1695	
144.021,	152.32234,	40.6002,	126.1701	
144.025,	152.37906,	40.4350,	126.1768	
144.026,	152.39873,	40.3774,	126.1786	
144.027,	152.40387,	40.3618,	126.1783	
144.028,	152.40903,	40.3463,	126.1780	
144.029,	152.41423,	40.3306,	126.1777	
144.030,	152.42052,	40.3115,	126.1771	
144.031,	152.42569,	40.2957,	126.1765	
144.032,	152.43054,	40.2809,	126.1760	
144.033,	152.43535,	40.2663,	126.1755	
144.034,	152.44011,	40.2517,	126.1750	
144.035,	152.44479,	40.2375,	126.1745	
144.036,	152.45027,	40.2208,	126.1739	
144.037,	152.45505,	40.2062,	126.1734	
144.038,	152.45963,	40.1925,	126.1731	
144.039,	152.46429,	40.1791,	126.1733	
144.040,	152.46889,	40.1659,	126.1735	
144.041,	152.47343,	40.1528,	126.1737	
144.042,	152.47797,	40.1398,	126.1739	
144.043,	152.48268,	40.1262,	126.1742	
144.044,	152.48726,	40.1131,	126.1744	
144.045,	152.49179,	40.1001,	126.1747	
144.046,	152.49660,	40.0864,	126.1749	
144.047,	152.50130,	40.0732,	126.1748	
144.048,	152.50610,	40.0604,	126.1738	
144.049,	152.51068,	40.0483,	126.1729	
144.050,	152.51538,	40.0358,	126.1719	
144.051,	152.52026,	40.0229,	126.1709	
144.052,	152.52510,	40.0102,	126.1680	

TAPE	FILE	TIME	LATITUDE	LONGITUDE
144.	053,	152.53093,	39.9949,	126.1641
144.	054,	152.53703,	39.9789,	126.1600
144.	055,	152.54303,	39.9632,	126.1549
144.	056,	152.54878,	39.9484,	126.1463
144.	057,	152.55450,	39.9337,	126.1379
144.	058,	152.55963,	39.9206,	126.1303
144.	059,	152.56439,	39.9083,	126.1232
144.	060,	152.56972,	39.8947,	126.1153
144.	061,	152.57481,	39.8816,	126.1078
145.	001,	152.58647,	39.8527,	126.0906
145.	002,	152.59174,	39.8410,	126.0830
145.	003,	152.59756,	39.8280,	126.0745
145.	004,	152.60251,	39.8170,	126.0673
145.	005,	152.60741,	39.8082,	126.0604
145.	006,	152.61279,	39.7996,	126.0530
145.	007,	152.61986,	39.7884,	126.0432
145.	008,	152.63176,	39.7696,	126.0268
145.	009,	152.63644,	39.7622,	126.0203
145.	010,	152.64107,	39.7549,	126.0140
145.	011,	152.64647,	39.7464,	126.0065
145.	012,	152.65334,	39.7355,	125.9970
145.	013,	152.65930,	39.7261,	125.9887
145.	014,	152.66403,	39.7186,	125.9822
145.	015,	152.66890,	39.7109,	125.9754
145.	016,	152.67383,	39.7031,	125.9686
145.	017,	152.68076,	39.6921,	125.9591
145.	018,	152.68553,	39.6845,	125.9525
145.	019,	152.69012,	39.6773,	125.9462
145.	020,	152.69475,	39.6700,	125.9398
145.	021,	152.69952,	39.6624,	125.9332
145.	041,	153.02672,	39.3506,	126.1705
145.	042,	153.03183,	39.3567,	126.1702
145.	043,	153.03722,	39.3632,	126.1699
145.	044,	153.04260,	39.3697,	126.1697
145.	045,	153.04796,	39.3761,	126.1694
145.	046,	153.05322,	39.3825,	126.1691
145.	047,	153.05859,	39.3889,	126.1688
145.	048,	153.06400,	39.3954,	126.1685
145.	049,	153.06952,	39.4021,	126.1682
145.	050,	153.07486,	39.4085,	126.1680
145.	051,	153.08014,	39.4149,	126.1677
145.	052,	153.08548,	39.4212,	126.1678
145.	053,	153.09058,	39.4273,	126.1685
145.	054,	153.11357,	39.4540,	126.1703
145.	055,	153.11945,	39.4606,	126.1702
145.	056,	153.12968,	39.4720,	126.1702
146.	001,	153.14403,	39.4881,	126.1702
146.	002,	153.15672,	39.5021,	126.1704
146.	003,	153.16388,	39.5099,	126.1705
146.	004,	153.17334,	39.5195,	126.1709
146.	005,	153.17938,	39.5255,	126.1712
146.	006,	153.18712,	39.5330,	126.1715

TAPE.FIL	TIME	LATITUDE	LONGITUDE
146.007,	153.19368,	39.5390,	126.1719
146.009,	153.20816,	39.5522,	126.1728
146.010,	153.22093,	39.5638,	126.1735
146.011,	153.22652,	39.5689,	126.1739
146.012,	153.23601,	39.5773,	126.1743
146.013,	153.24178,	39.5824,	126.1746
146.014,	153.24898,	39.5887,	126.1750
146.016,	153.26060,	39.5989,	126.1755
146.017,	153.26759,	39.6050,	126.1758
146.018,	153.27794,	39.6140,	126.1763
146.019,	153.28372,	39.6191,	126.1766
146.020,	153.28912,	39.6239,	126.1769
146.021,	153.29478,	39.6289,	126.1778
146.022,	153.30029,	39.6338,	126.1792
146.023,	153.30582,	39.6387,	126.1805
146.024,	153.31134,	39.6436,	126.1819
146.025,	153.31688,	39.6482,	126.1825
146.026,	153.32249,	39.6529,	126.1829
146.027,	153.32823,	39.6577,	126.1833
146.028,	153.33508,	39.6634,	126.1838
146.029,	153.34258,	39.6696,	126.1844
146.030,	153.34981,	39.6756,	126.1849
146.031,	153.35559,	39.6804,	126.1854
146.032,	153.36128,	39.6853,	126.1862
146.033,	153.36703,	39.6902,	126.1871
146.034,	153.37267,	39.6950,	126.1879
146.035,	153.37827,	39.7002,	126.1882
146.036,	153.38440,	39.7062,	126.1883
146.037,	153.39000,	39.7116,	126.1883
146.038,	153.39575,	39.7172,	126.1884
146.039,	153.40179,	39.7230,	126.1886
146.040,	153.40752,	39.7284,	126.1887
146.041,	153.41315,	39.7337,	126.1889
146.042,	153.41864,	39.7390,	126.1889
146.043,	153.42448,	39.7447,	126.1887
146.044,	153.43027,	39.7504,	126.1885
146.045,	153.43623,	39.7562,	126.1882
146.046,	153.44199,	39.7620,	126.1877
147.001,	153.45161,	39.7718,	126.1867
147.002,	153.45741,	39.7777,	126.1861
147.003,	153.46323,	39.7838,	126.1855
147.004,	153.46887,	39.7897,	126.1850
147.005,	153.47502,	39.7962,	126.1844
147.006,	153.48058,	39.8022,	126.1837
147.007,	153.48622,	39.8085,	126.1827
147.008,	153.49185,	39.8147,	126.1817
147.009,	153.49753,	39.8210,	126.1807
147.010,	153.50296,	39.8270,	126.1797
147.011,	153.50850,	39.8330,	126.1785
147.012,	153.51405,	39.8390,	126.1773
147.013,	153.51956,	39.8449,	126.1762
147.014,	153.52499,	39.8508,	126.1750

TAPE	FILE	TIME	LATITUDE	LONGITUDE
147.015,	153.53029,	39.8565,	126.1739	
147.016,	153.53748,	39.8643,	126.1723	
147.017,	153.54283,	39.8700,	126.1713	
147.018,	153.54810,	39.8757,	126.1706	
147.019,	153.55333,	39.8813,	126.1700	
147.020,	153.55855,	39.8869,	126.1694	
147.021,	153.56372,	39.8924,	126.1690	
147.022,	153.56911,	39.8980,	126.1697	
147.023,	153.57437,	39.9036,	126.1703	
147.024,	153.57957,	39.9091,	126.1709	
147.025,	153.58496,	39.9148,	126.1713	
147.026,	153.59013,	39.9203,	126.1712	
147.027,	153.59532,	39.9259,	126.1711	
147.028,	153.60049,	39.9314,	126.1711	
147.029,	153.60591,	39.9373,	126.1710	
147.030,	153.61105,	39.9428,	126.1709	
147.031,	153.61832,	39.9505,	126.1708	
147.032,	153.62358,	39.9562,	126.1707	
147.033,	153.62929,	39.9623,	126.1706	
147.034,	153.63538,	39.9689,	126.1706	
147.035,	153.64069,	39.9746,	126.1705	
147.036,	153.64609,	39.9804,	126.1704	
147.037,	153.65134,	39.9863,	126.1694	
147.038,	153.65884,	39.9947,	126.1681	
147.039,	153.66411,	40.0006,	126.1672	
147.040,	153.66913,	40.0063,	126.1661	
147.041,	153.67421,	40.0121,	126.1649	
147.042,	153.67934,	40.0180,	126.1637	
147.043,	153.68445,	40.0238,	126.1624	
147.044,	153.68956,	40.0297,	126.1612	
147.045,	153.73335,	40.0798,	126.1519	
148.001,	153.74655,	40.0953,	126.1530	
148.003,	153.75262,	40.1025,	126.1537	
148.004,	153.75922,	40.1103,	126.1546	
148.005,	153.76523,	40.1174,	126.1554	
148.006,	153.77100,	40.1242,	126.1562	
148.007,	153.77667,	40.1309,	126.1570	
148.008,	153.78239,	40.1377,	126.1579	
148.009,	153.78813,	40.1445,	126.1587	
148.010,	153.79393,	40.1514,	126.1595	
148.011,	153.79944,	40.1579,	126.1603	
148.012,	153.80536,	40.1649,	126.1611	
148.013,	153.81113,	40.1717,	126.1619	
148.014,	153.81674,	40.1783,	126.1627	
148.015,	153.82239,	40.1850,	126.1635	
148.016,	153.82915,	40.1930,	126.1644	
148.017,	153.83452,	40.1993,	126.1652	
148.018,	153.84067,	40.2066,	126.1660	
148.019,	153.84628,	40.2132,	126.1668	
148.020,	153.85194,	40.2200,	126.1676	
148.021,	153.85716,	40.2261,	126.1683	
148.022,	153.86270,	40.2327,	126.1691	

TAPE	FILE	TIME	LATITUDE	LONGITUDE
148.023,	153.87114,	40.2426,	126.1703	
148.024,	153.87646,	40.2494,	126.1710	
148.025,	153.88196,	40.2576,	126.1712	
148.026,	153.88744,	40.2658,	126.1714	
148.027,	153.89281,	40.2738,	126.1717	
148.028,	153.89795,	40.2818,	126.1718	
148.029,	153.90340,	40.2909,	126.1717	
148.030,	153.90868,	40.2996,	126.1717	
148.033,	153.92458,	40.3260,	126.1716	
148.034,	153.92970,	40.3345,	126.1715	
148.035,	153.93488,	40.3431,	126.1715	
148.036,	153.94101,	40.3532,	126.1715	
148.037,	153.94633,	40.3620,	126.1715	
148.038,	153.95229,	40.3718,	126.1714	
148.039,	153.95764,	40.3807,	126.1714	
148.040,	153.96234,	40.3885,	126.1714	
148.041,	153.96721,	40.3965,	126.1714	
148.042,	153.97209,	40.4046,	126.1713	
148.043,	153.97687,	40.4126,	126.1713	
148.044,	153.98166,	40.4205,	126.1713	
148.045,	153.98654,	40.4286,	126.1713	
148.046,	153.99150,	40.4368,	126.1712	
148.047,	153.99638,	40.4448,	126.1712	
148.048,	154.00160,	40.4535,	126.1712	
148.049,	154.00636,	40.4613,	126.1711	
148.050,	154.01111,	40.4692,	126.1711	
148.051,	154.01660,	40.4783,	126.1710	
148.052,	154.02147,	40.4864,	126.1710	
148.053,	154.02650,	40.4947,	126.1710	
148.054,	154.03156,	40.5031,	126.1709	
148.055,	154.03638,	40.5111,	126.1709	
148.056,	154.04129,	40.5193,	126.1709	
148.058,	154.04802,	40.5304,	126.1709	
148.059,	154.05342,	40.5393,	126.1708	
148.060,	154.05820,	40.5472,	126.1708	
148.061,	154.06296,	40.5551,	126.1708	
148.062,	154.06787,	40.5632,	126.1708	
148.063,	154.07596,	40.5766,	126.1707	
148.064,	154.08115,	40.5852,	126.1707	
149.001,	154.08846,	40.5973,	126.1707	
149.002,	154.09348,	40.6056,	126.1707	
149.003,	154.09886,	40.6146,	126.1706	
149.004,	154.10402,	40.6231,	126.1706	
149.005,	154.10887,	40.6312,	126.1706	
149.006,	154.11823,	40.6466,	126.1705	
149.007,	154.12318,	40.6548,	126.1704	
149.008,	154.12813,	40.6630,	126.1704	
149.009,	154.13309,	40.6712,	126.1704	
149.010,	154.13812,	40.6795,	126.1703	
149.011,	154.14301,	40.6876,	126.1703	
149.012,	154.14799,	40.6959,	126.1703	
149.013,	154.15303,	40.7043,	126.1703	

TAPE	FILE	TIME	LATITUDE	LONGITUDE
149.014,	154.15788,	40.7123,	126.1702	
149.015,	154.16284,	40.7205,	126.1702	
149.016,	154.16769,	40.7286,	126.1702	
149.017,	154.17285,	40.7371,	126.1702	
149.018,	154.17775,	40.7452,	126.1701	
149.019,	154.18260,	40.7532,	126.1701	
149.020,	154.18741,	40.7611,	126.1701	
149.021,	154.19244,	40.7695,	126.1701	
149.022,	154.20111,	40.7838,	126.1700	
149.023,	154.20641,	40.7926,	126.1700	
149.024,	154.21199,	40.8019,	126.1700	
149.025,	154.21719,	40.8105,	126.1699	
149.026,	154.22343,	40.8209,	126.1699	
149.027,	154.22920,	40.8304,	126.1698	
149.028,	154.23409,	40.8385,	126.1698	
149.029,	154.24097,	40.8499,	126.1697	
149.030,	154.24594,	40.8581,	126.1697	
149.031,	154.25157,	40.8674,	126.1697	
149.032,	154.25815,	40.8783,	126.1697	
149.033,	154.26314,	40.8866,	126.1696	
149.034,	154.26825,	40.8950,	126.1696	
149.035,	154.27330,	40.9034,	126.1696	
149.036,	154.27809,	40.9113,	126.1696	
149.037,	154.28453,	40.9220,	126.1695	
149.038,	154.28970,	40.9305,	126.1695	
149.039,	154.29485,	40.9391,	126.1695	
149.040,	154.30011,	40.9478,	126.1695	
149.041,	154.30544,	40.9566,	126.1694	
149.042,	154.31088,	40.9656,	126.1694	
149.043,	154.31607,	40.9742,	126.1694	
149.044,	154.32121,	40.9827,	126.1693	
149.045,	154.32643,	40.9914,	126.1693	
149.046,	154.76926,	39.6541,	124.9779	
149.047,	154.77534,	39.6487,	124.9753	
149.048,	154.78133,	39.6414,	124.9731	
149.049,	154.78746,	39.6339,	124.9708	
149.050,	154.79399,	39.6256,	124.9690	
149.051,	154.79988,	39.6176,	124.9686	
149.052,	154.80571,	39.6098,	124.9681	
149.053,	154.81172,	39.6017,	124.9677	
149.054,	154.81749,	39.5939,	124.9672	
149.055,	154.82338,	39.5859,	124.9668	
149.056,	154.82910,	39.5782,	124.9663	
150.002,	154.83780,	39.5663,	124.9669	
150.003,	154.84383,	39.5578,	124.9681	
150.004,	154.84956,	39.5498,	124.9693	
150.005,	154.85532,	39.5417,	124.9705	
150.006,	154.86113,	39.5332,	124.9723	
150.007,	154.86952,	39.5210,	124.9748	
150.008,	154.87529,	39.5126,	124.9765	
150.009,	154.88264,	39.5018,	124.9788	
150.010,	154.88837,	39.4934,	124.9805	

TAPE	FILE	TIME	LATITUDE	LONGITUDE
150.011,	154.89420,	39.4849,	124.9823	
150.013,	154.90562,	39.4683,	124.9852	
150.014,	154.91145,	39.4598,	124.9865	
150.015,	154.91727,	39.4513,	124.9879	
150.017,	154.92879,	39.4347,	124.9905	
150.018,	154.93452,	39.4264,	124.9917	
150.019,	154.94072,	39.4174,	124.9931	
150.020,	154.94649,	39.4091,	124.9944	
150.021,	154.95219,	39.4009,	124.9956	
150.022,	154.95772,	39.3929,	124.9969	
150.023,	154.96327,	39.3849,	124.9981	
150.024,	154.97101,	39.3737,	124.9998	
150.025,	154.97650,	39.3658,	125.0010	
150.027,	154.98204,	39.3577,	125.0019	
150.028,	154.98749,	39.3497,	125.0024	
150.030,	154.99405,	39.3400,	125.0030	
150.031,	154.99997,	39.3313,	125.0035	
150.032,	155.00560,	39.3227,	125.0023	
150.033,	155.01117,	39.3141,	125.0011	
150.034,	155.01674,	39.3056,	125.0000	
150.035,	155.02217,	39.2971,	124.9991	
150.036,	155.02774,	39.2879,	124.9992	
150.037,	155.03317,	39.2790,	124.9993	
150.038,	155.03949,	39.2686,	124.9994	
150.039,	155.04486,	39.2595,	125.0001	
150.040,	155.05029,	39.2501,	125.0013	
150.041,	155.05576,	39.2407,	125.0024	
150.043,	155.06674,	39.2216,	125.0048	
150.044,	155.07216,	39.2123,	125.0060	
150.045,	155.07764,	39.2028,	125.0072	
150.046,	155.08319,	39.1931,	125.0084	
150.047,	155.08856,	39.1838,	125.0095	
150.048,	155.09401,	39.1744,	125.0107	
150.049,	155.09943,	39.1649,	125.0119	
150.050,	155.10484,	39.1555,	125.0130	
150.051,	155.11026,	39.1461,	125.0142	
150.052,	155.11572,	39.1367,	125.0154	
151.001,	155.12346,	39.1233,	125.0171	
151.002,	155.12898,	39.1137,	125.0183	
151.003,	155.13498,	39.1034,	125.0196	
151.004,	155.14038,	39.0940,	125.0207	
151.005,	155.14584,	39.0846,	125.0219	
151.006,	155.15125,	39.0752,	125.0231	
151.007,	155.15672,	39.0657,	125.0243	
151.010,	155.16565,	39.0502,	125.0263	
151.011,	155.17128,	39.0404,	125.0268	
151.012,	155.17680,	39.0308,	125.0272	
151.014,	155.18254,	39.0209,	125.0276	
151.015,	155.18819,	39.0111,	125.0278	
151.016,	155.19382,	39.0013,	125.0271	
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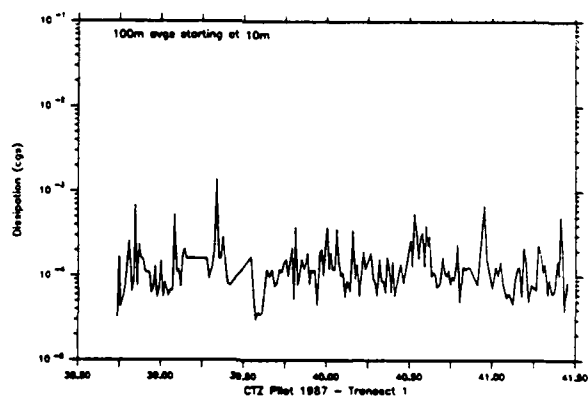
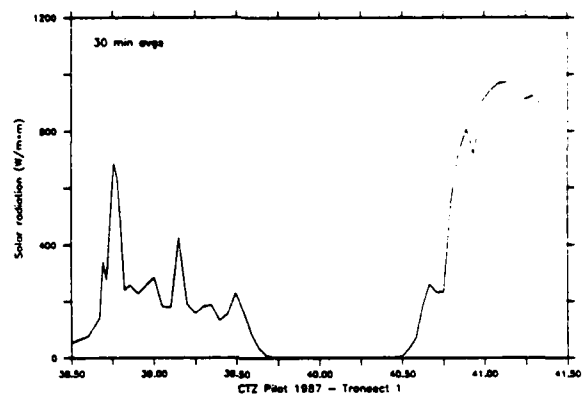
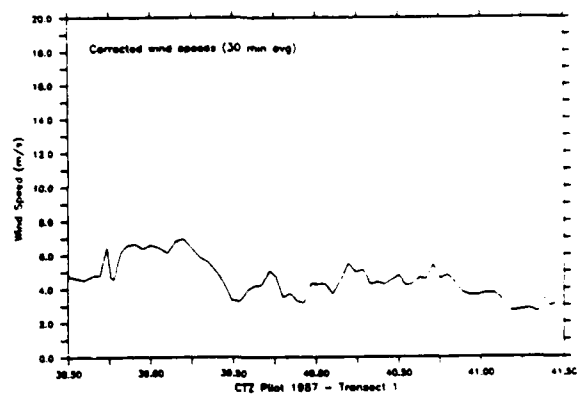
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151.	021,	155.22502,	38.9469,	125.0234
151.	022,	155.23305,	38.9329,	125.0224
151.	023,	155.24011,	38.9206,	125.0216
151.	024,	155.24568,	38.9109,	125.0209
151.	025,	155.25134,	38.9011,	125.0202
151.	026,	155.25806,	38.8893,	125.0191
151.	027,	155.26483,	38.8775,	125.0180
151.	028,	155.27309,	38.8630,	125.0165
151.	029,	155.27859,	38.8534,	125.0154
151.	030,	155.28545,	38.8413,	125.0139
151.	031,	155.29106,	38.8315,	125.0127
151.	032,	155.29688,	38.8213,	125.0115
151.	033,	155.30261,	38.8112,	125.0103
151.	034,	155.30836,	38.8011,	125.0091
151.	035,	155.31418,	38.7910,	125.0078
151.	036,	155.31999,	38.7807,	125.0066
151.	037,	155.32568,	38.7707,	125.0054
151.	038,	155.33142,	38.7607,	125.0041
151.	039,	155.33711,	38.7507,	125.0029
151.	040,	155.34285,	38.7406,	125.0017
151.	041,	155.34877,	38.7302,	125.0004
151.	042,	155.35451,	38.7201,	124.9992
151.	043,	155.36018,	38.7101,	124.9980
151.	044,	155.36600,	38.6999,	124.9968
151.	045,	155.37445,	38.6851,	124.9950
151.	046,	155.38029,	38.6748,	124.9938
151.	047,	155.38599,	38.6648,	124.9926
151.	048,	155.39157,	38.6550,	124.9914
151.	049,	155.39722,	38.6451,	124.9902
151.	050,	155.40294,	38.6350,	124.9890
151.	051,	155.40875,	38.6248,	124.9878
152.	001,	155.42068,	38.6039,	124.9855
152.	002,	155.42671,	38.5934,	124.9847
152.	003,	155.43246,	38.5833,	124.9839
152.	004,	155.43817,	38.5733,	124.9832
152.	005,	155.44388,	38.5635,	124.9836
152.	006,	155.44975,	38.5534,	124.9840
152.	007,	155.45537,	38.5437,	124.9844
152.	008,	155.46092,	38.5341,	124.9848
152.	009,	155.46648,	38.5246,	124.9851
152.	010,	155.47202,	38.5150,	124.9855
152.	012,	155.48264,	38.4967,	124.9861
152.	013,	155.48865,	38.4863,	124.9865
152.	014,	155.49425,	38.4766,	124.9869
152.	015,	155.49985,	38.4670,	124.9873
152.	016,	155.50537,	38.4574,	124.9876
152.	017,	155.51108,	38.4476,	124.9880
152.	018,	155.51674,	38.4379,	124.9883
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152.	020,	155.52864,	38.4173,	124.9891

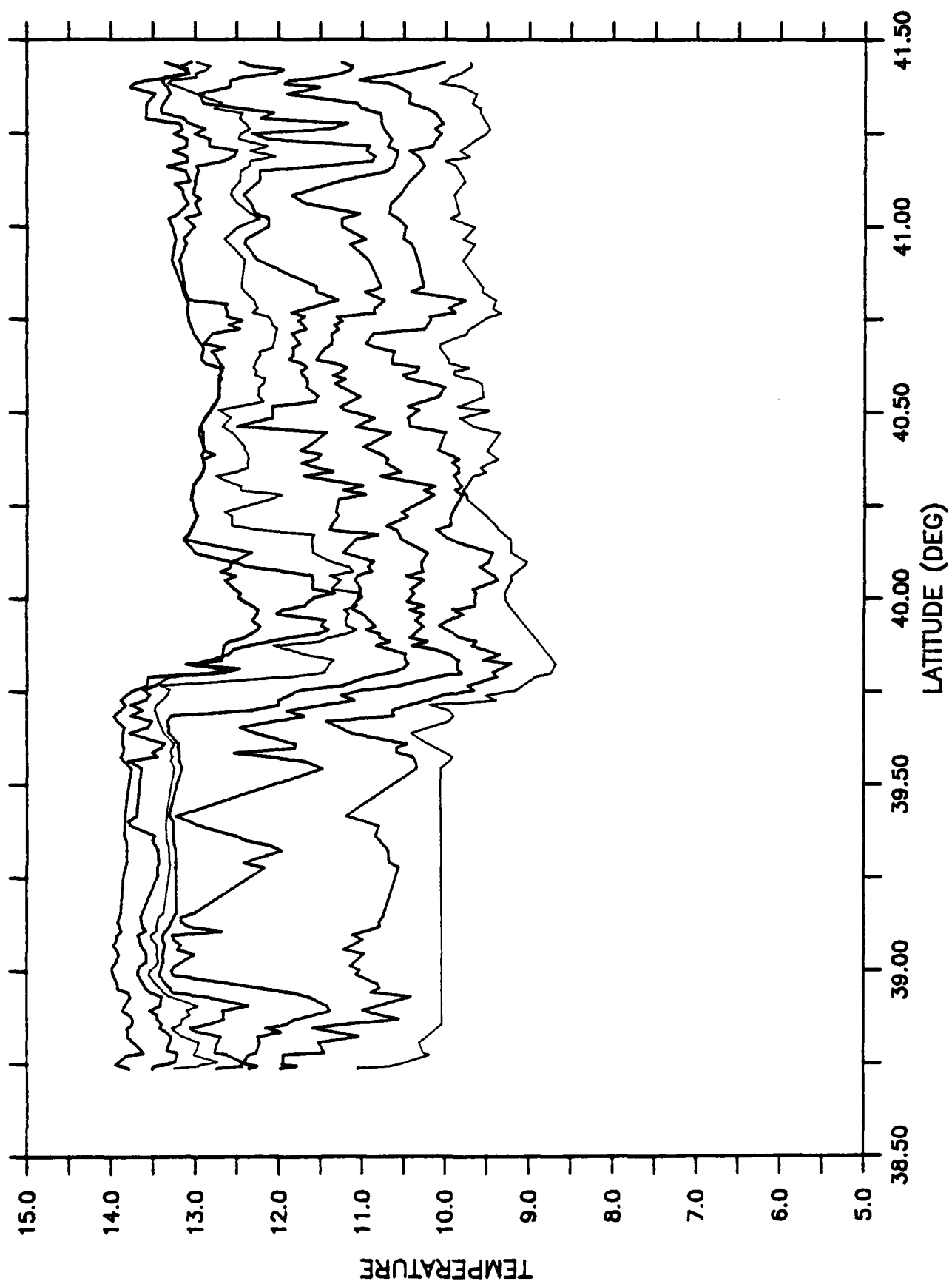
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152.	024,	155.55112,	38.3786,	124.9906
152.	025,	155.55695,	38.3685,	124.9910
152.	026,	155.56258,	38.3588,	124.9913
152.	027,	155.56810,	38.3492,	124.9917
152.	028,	155.57359,	38.3398,	124.9920
152.	030,	155.58467,	38.3207,	124.9928
152.	031,	155.59019,	38.3112,	124.9931
152.	032,	155.59570,	38.3017,	124.9935
152.	033,	155.60121,	38.2922,	124.9938
152.	034,	155.60675,	38.2826,	124.9942
152.	035,	155.61238,	38.2729,	124.9946
152.	036,	155.61847,	38.2624,	124.9950
152.	037,	155.62418,	38.2525,	124.9953
152.	038,	155.63139,	38.2400,	124.9959
152.	039,	155.63814,	38.2283,	124.9963
152.	040,	155.64383,	38.2185,	124.9968
152.	041,	155.64957,	38.2081,	124.9973
152.	042,	155.65527,	38.1977,	124.9979
152.	043,	155.66103,	38.1871,	124.9985
152.	044,	155.66661,	38.1769,	124.9991
152.	045,	155.67218,	38.1667,	124.9997
153.	001,	155.68034,	38.1517,	125.0005
153.	003,	155.69038,	38.1333,	125.0016
153.	004,	155.69815,	38.1191,	125.0025
153.	005,	155.70480,	38.1069,	125.0032
153.	006,	155.71046,	38.0967,	125.0038
153.	007,	155.71623,	38.0866,	125.0042
153.	008,	155.72191,	38.0766,	125.0046
153.	009,	155.72798,	38.0660,	125.0050
153.	010,	155.73358,	38.0565,	125.0053
153.	011,	155.73915,	38.0471,	125.0056
153.	012,	155.74490,	38.0374,	125.0059
153.	013,	155.75143,	38.0264,	125.0062
153.	014,	155.75711,	38.0171,	125.0064
153.	015,	155.76314,	38.0071,	125.0067
153.	016,	155.76871,	37.9979,	125.0069
153.	017,	155.77411,	37.9932,	125.0069
153.	018,	155.77989,	37.9911,	125.0068
153.	019,	155.78564,	37.9890,	125.0066
153.	021,	155.82674,	37.9757,	125.0056
153.	022,	155.83836,	37.9810,	125.0052
153.	023,	155.84416,	37.9889,	125.0049
153.	024,	155.84987,	37.9967,	125.0047
153.	025,	155.85559,	38.0045,	125.0044
153.	026,	155.86107,	38.0120,	125.0042
153.	027,	155.86670,	38.0197,	125.0039
153.	028,	155.87216,	38.0271,	125.0036
153.	029,	155.87782,	38.0351,	125.0032
153.	030,	155.88350,	38.0433,	125.0026

TAPE	FILE	TIME	LATITUDE	LONGITUDE
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153.035,	155.91191,	38.0856,	124.9989	
153.036,	155.91762,	38.0942,	124.9980	
153.037,	155.92311,	38.1024,	124.9971	
153.038,	155.92863,	38.1107,	124.9962	
153.039,	155.93430,	38.1192,	124.9953	
153.041,	155.94206,	38.1307,	124.9939	
153.042,	155.94777,	38.1390,	124.9928	
153.043,	155.95332,	38.1471,	124.9917	
153.044,	155.95879,	38.1548,	124.9907	
153.045,	155.96431,	38.1602,	124.9901	
153.046,	155.97194,	38.1675,	124.9893	
153.047,	155.97768,	38.1731,	124.9888	
153.048,	155.98341,	38.1784,	124.9882	
153.049,	155.98900,	38.1835,	124.9877	
153.050,	155.99477,	38.1887,	124.9871	
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154.003,	156.03023,	38.2211,	124.9838	
154.005,	156.03841,	38.2285,	124.9830	
154.006,	156.06604,	38.2541,	124.9806	
154.007,	156.07602,	38.2641,	124.9801	
154.008,	156.08025,	38.2684,	124.9799	
154.009,	156.08560,	38.2749,	124.9800	
154.010,	156.09114,	38.2833,	124.9808	
154.011,	156.09683,	38.2919,	124.9816	
154.012,	156.10237,	38.3003,	124.9824	
154.013,	156.10786,	38.3086,	124.9832	
154.014,	156.11369,	38.3174,	124.9841	
154.015,	156.11923,	38.3258,	124.9849	
154.019,	156.14287,	38.3614,	124.9885	
154.020,	156.14847,	38.3699,	124.9893	
154.021,	156.15408,	38.3784,	124.9901	
154.022,	156.15968,	38.3868,	124.9910	
154.023,	156.16536,	38.3954,	124.9918	
154.024,	156.17094,	38.4038,	124.9926	
154.025,	156.17657,	38.4123,	124.9935	
154.026,	156.18225,	38.4209,	124.9943	
154.027,	156.18793,	38.4294,	124.9952	
154.028,	156.19350,	38.4379,	124.9962	
154.029,	156.19994,	38.4477,	124.9973	
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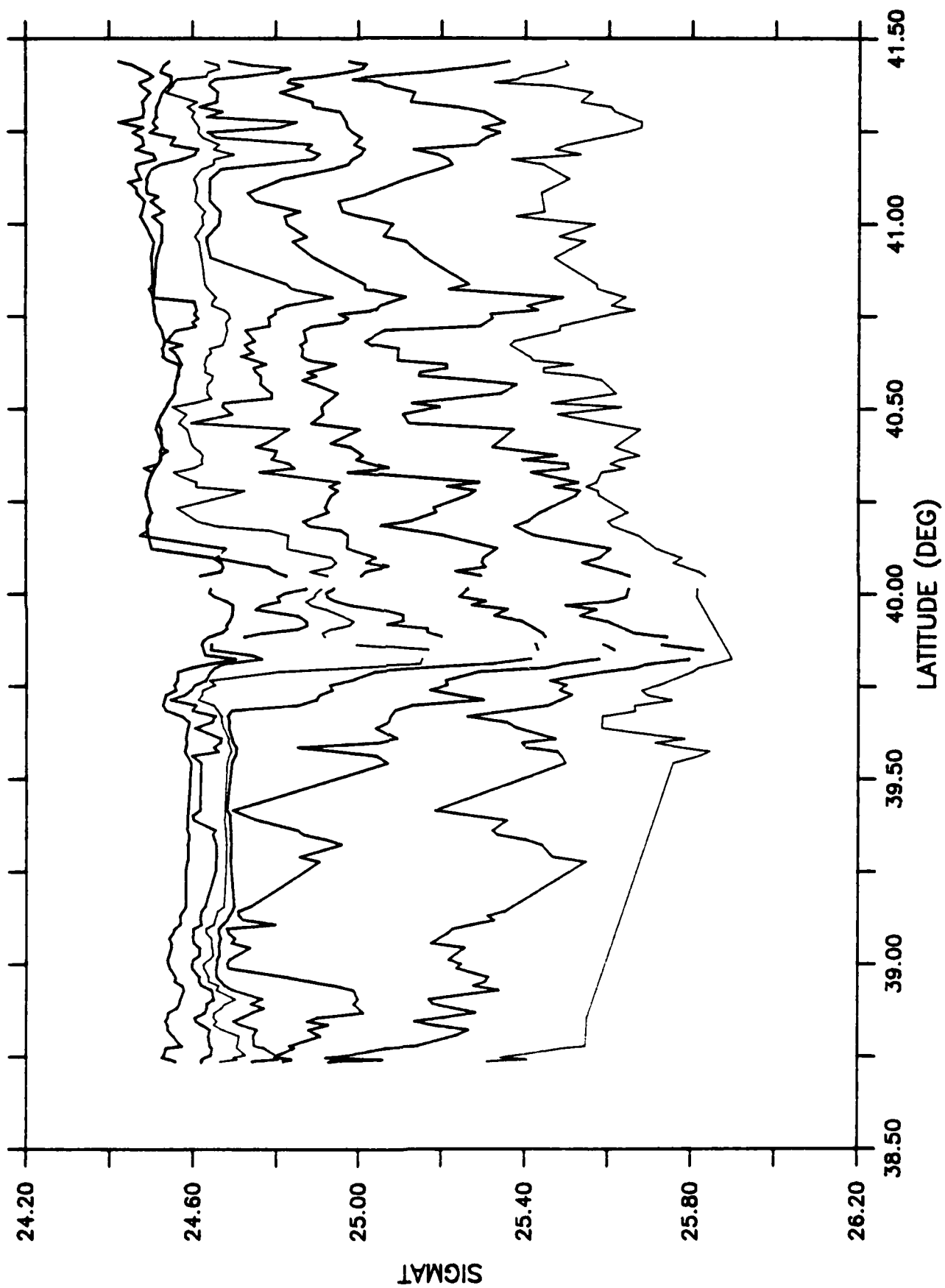
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154.040,	156.27972,	38.5778,	125.0089	
154.041,	156.28833,	38.5923,	125.0093	
154.042,	156.29359,	38.6011,	125.0096	
154.043,	156.29897,	38.6102,	125.0098	
154.044,	156.30408,	38.6187,	125.0101	
154.045,	156.30919,	38.6273,	125.0103	
154.046,	156.31425,	38.6358,	125.0106	
154.047,	156.31944,	38.6446,	125.0108	
154.048,	156.32457,	38.6532,	125.0110	
154.049,	156.32965,	38.6617,	125.0112	
154.050,	156.33485,	38.6705,	125.0115	
154.051,	156.33997,	38.6790,	125.0117	
154.052,	156.34509,	38.6877,	125.0120	
154.053,	156.35031,	38.6964,	125.0122	
154.054,	156.35626,	38.7064,	125.0125	
155.001,	156.36212,	38.7163,	125.0128	
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155.004,	156.38058,	38.7473,	125.0137	
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155.006,	156.39105,	38.7649,	125.0142	
155.007,	156.39616,	38.7735,	125.0144	
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155.010,	156.41142,	38.7992,	125.0152	
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155.016,	156.44254,	38.8515,	125.0165	
155.017,	156.44781,	38.8603,	125.0168	
155.018,	156.45334,	38.8696,	125.0171	
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155.020,	156.46315,	38.8861,	125.0175	
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155.022,	156.47313,	38.9029,	125.0180	
155.023,	156.47824,	38.9114,	125.0183	
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155.025,	156.48846,	38.9286,	125.0187	
155.026,	156.49370,	38.9374,	125.0190	
155.027,	156.49954,	38.9472,	125.0193	
155.028,	156.50493,	38.9563,	125.0195	
155.029,	156.51003,	38.9648,	125.0197	
155.030,	156.51514,	38.9734,	125.0200	
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TRANSECT 1

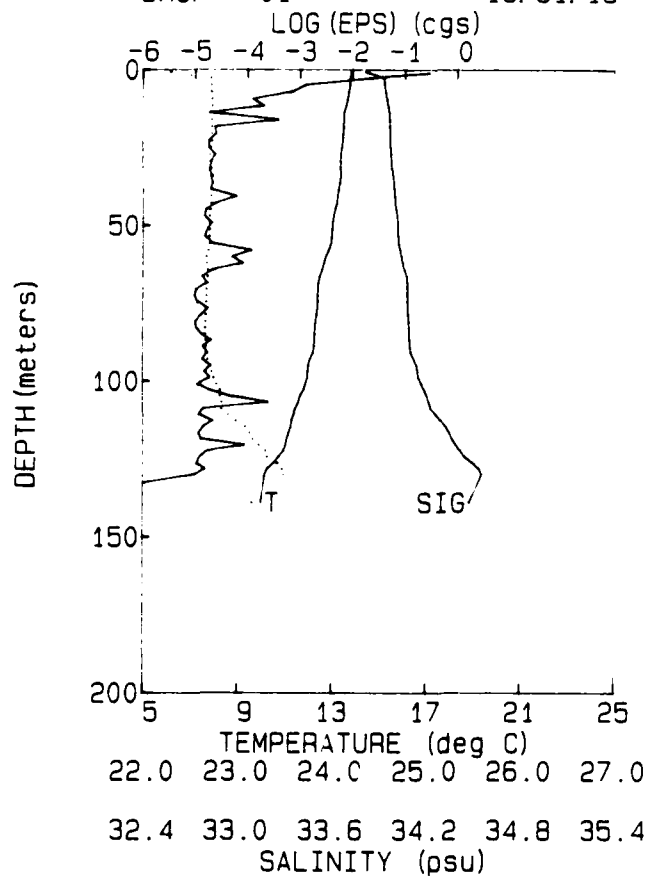




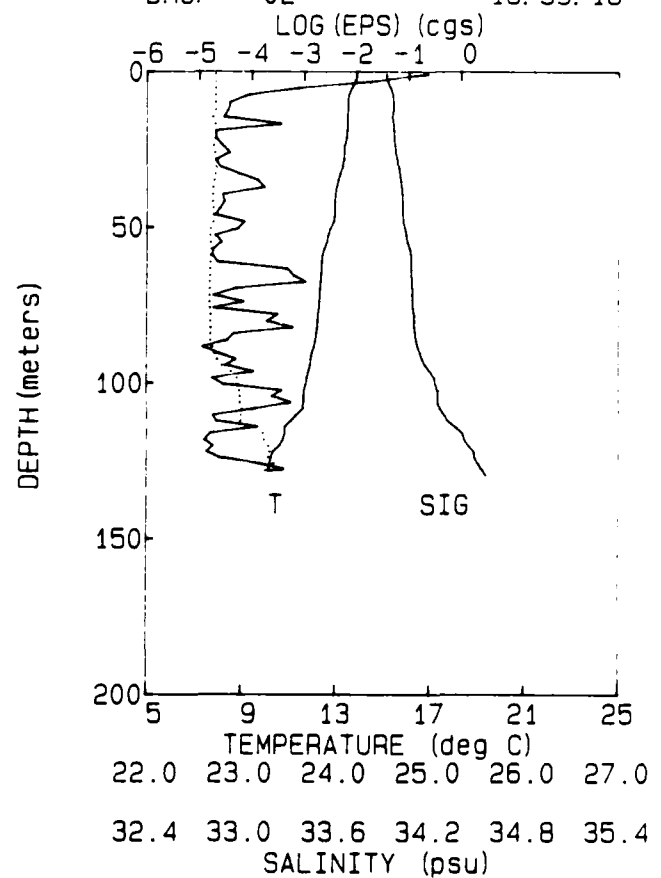
TRANSECT 1



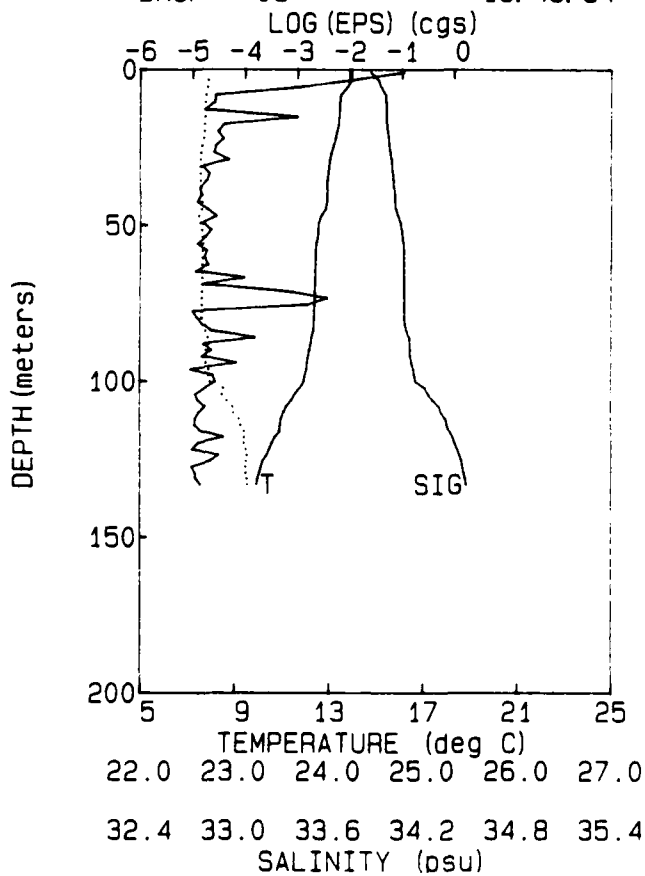
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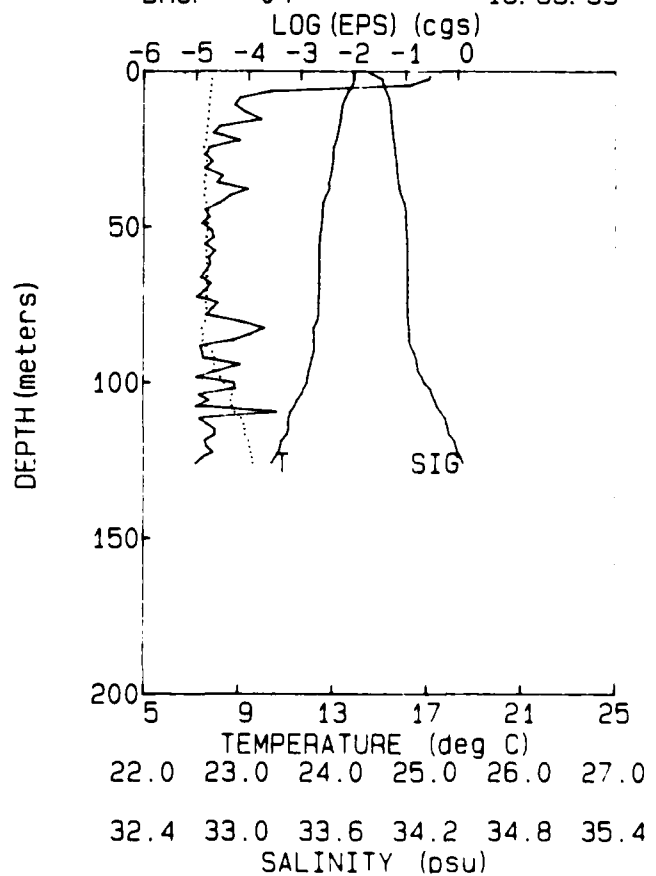
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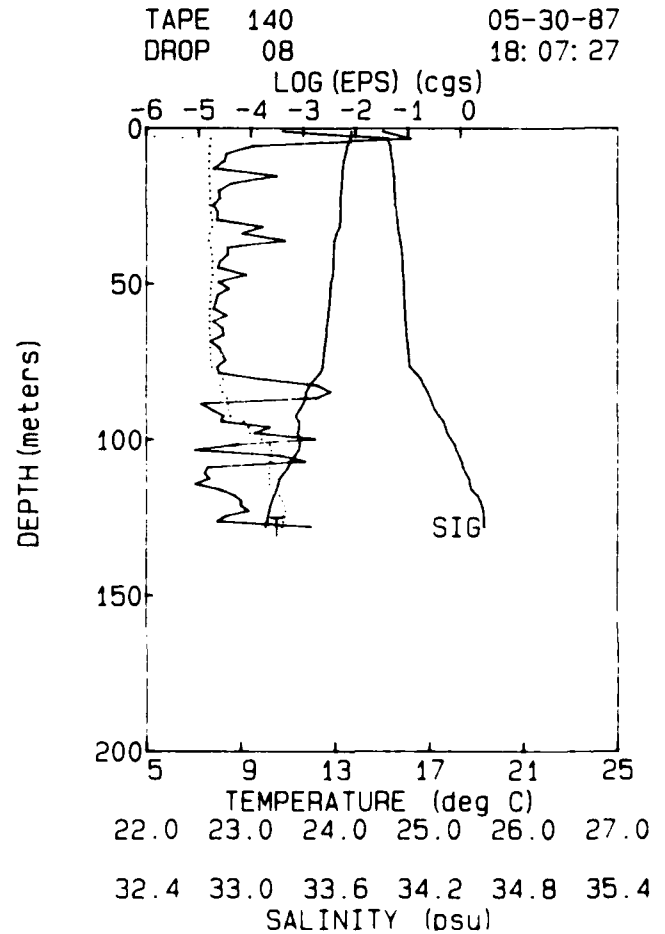
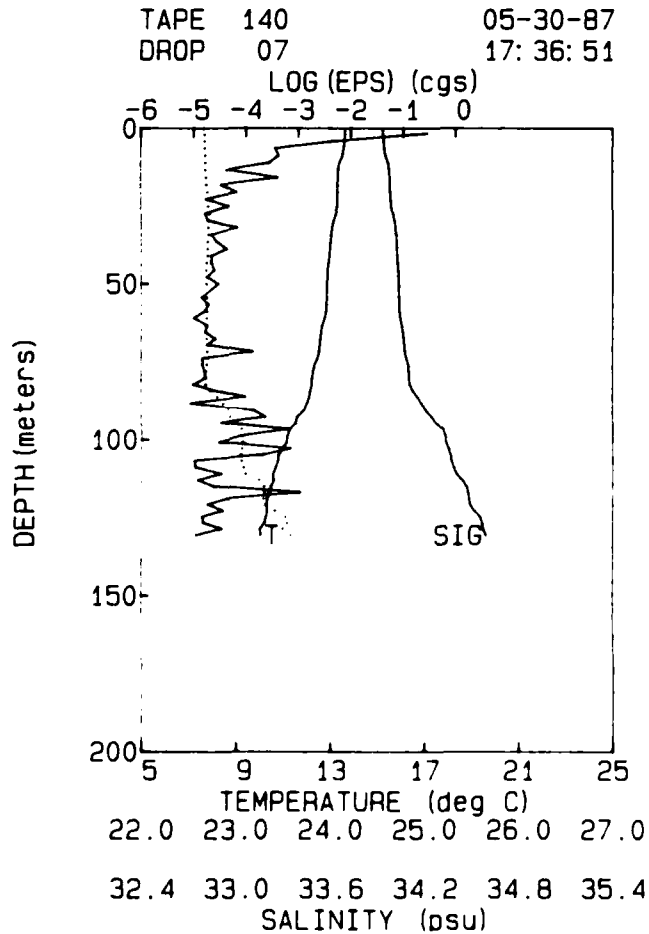
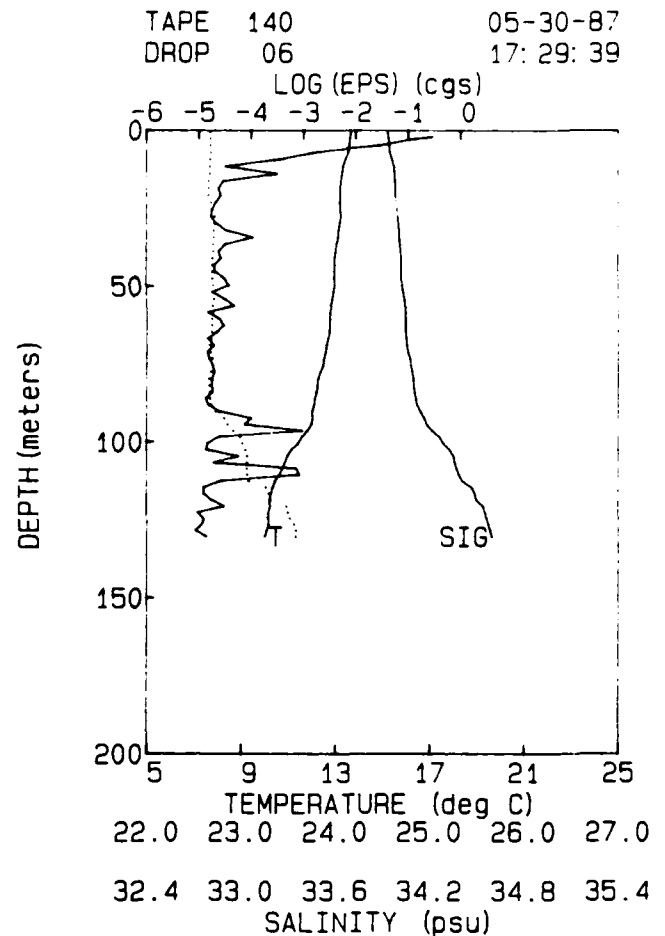
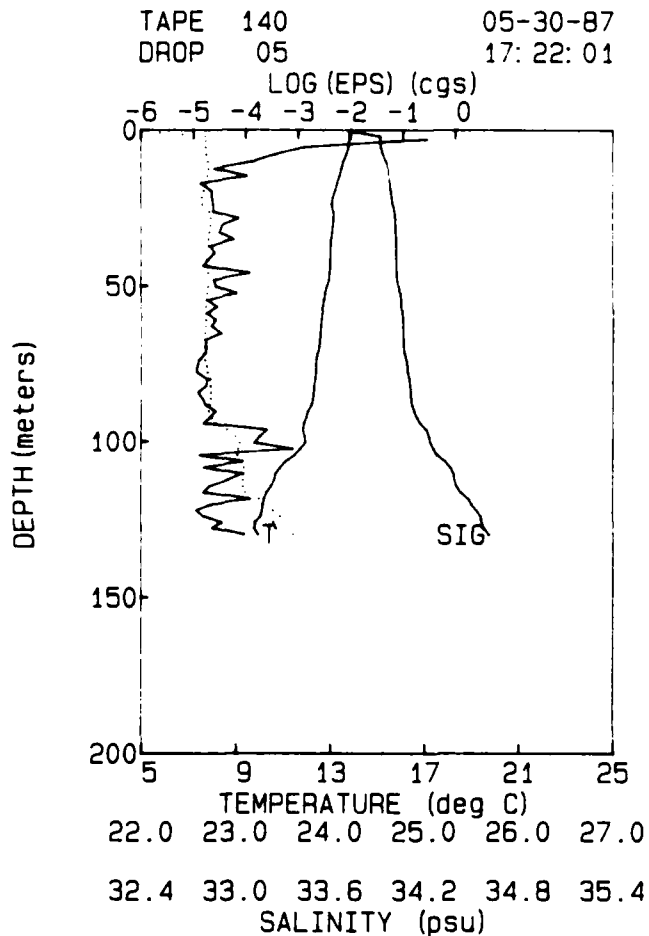


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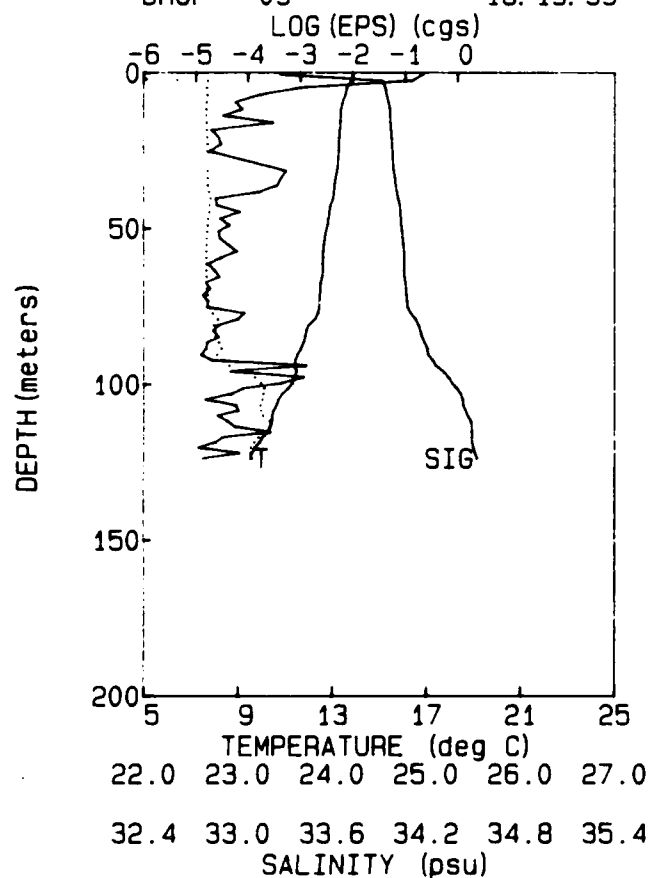


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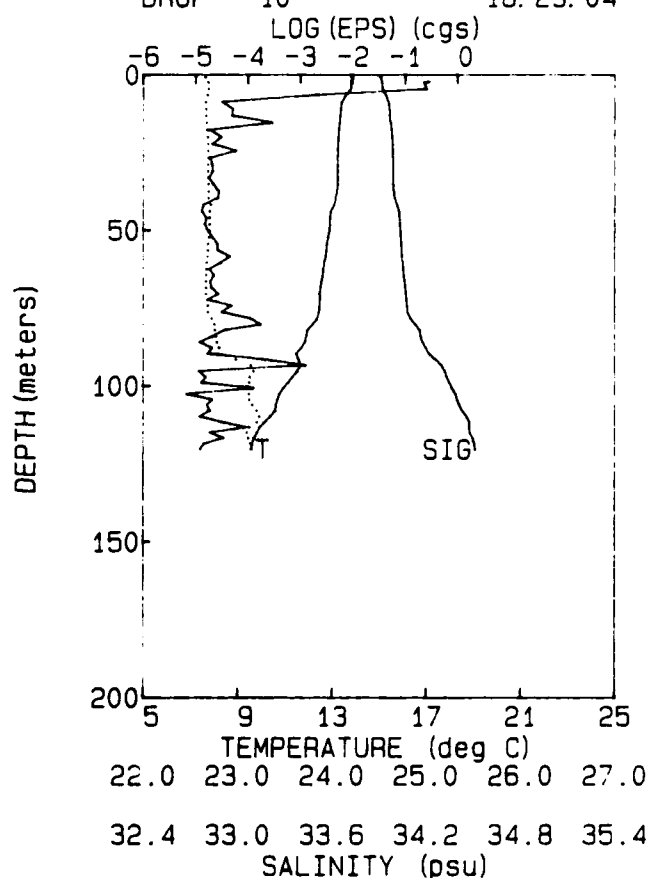




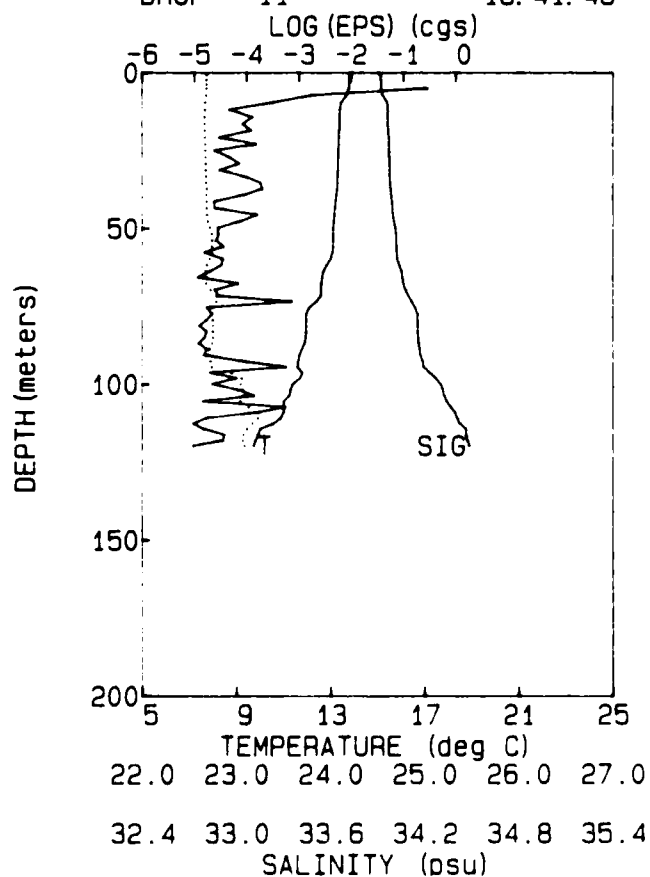
TAPE 140 05-30-87
DROP 09 18:19:39



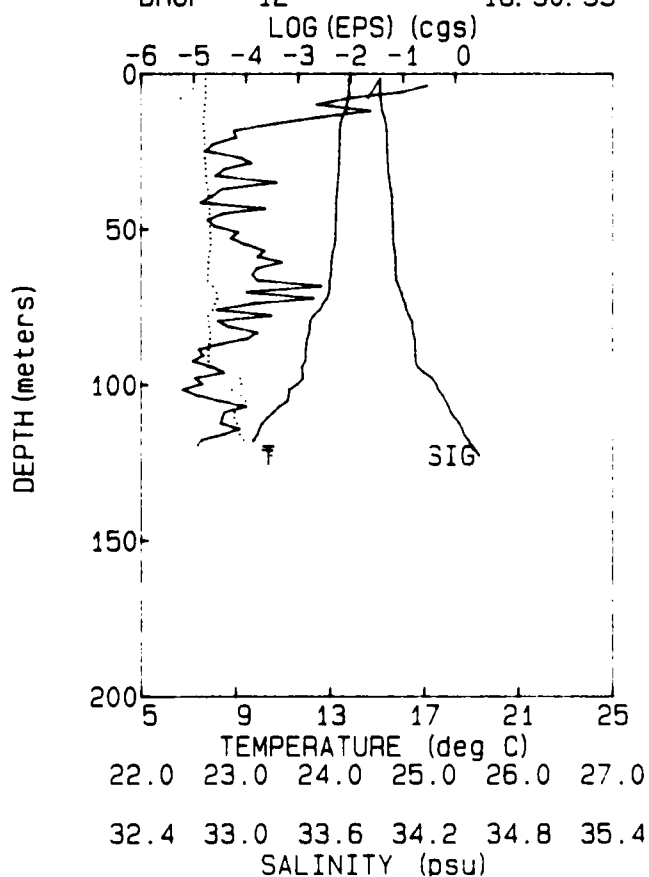
TAPE 140 05-30-87
DROP 10 18:29:04

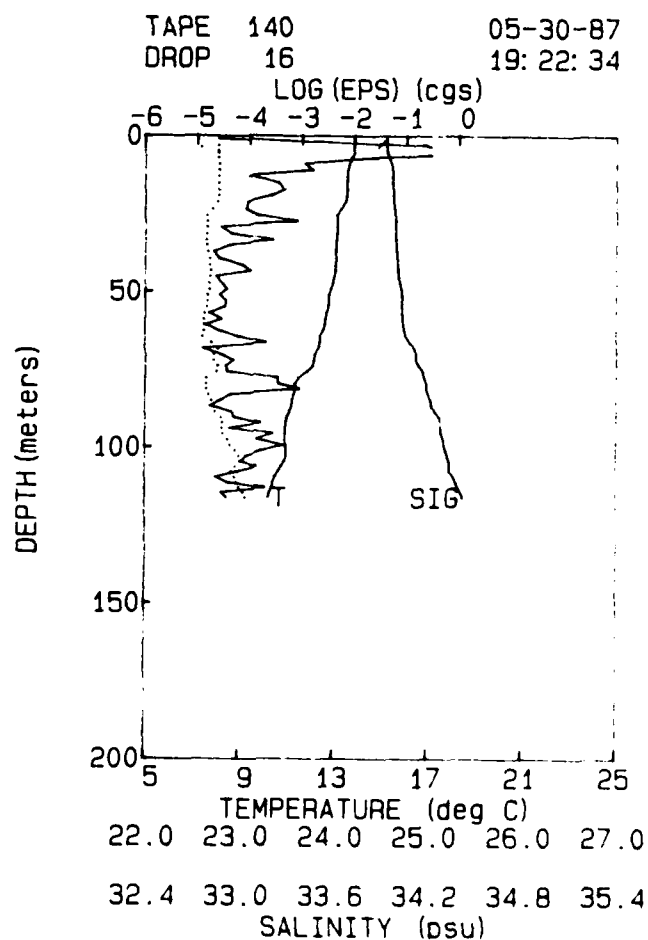
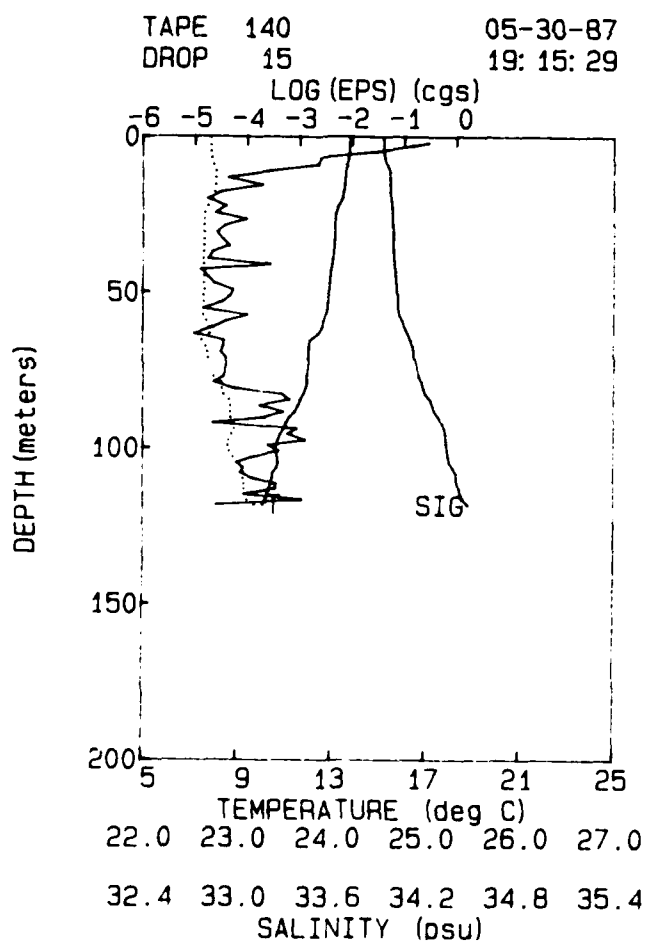
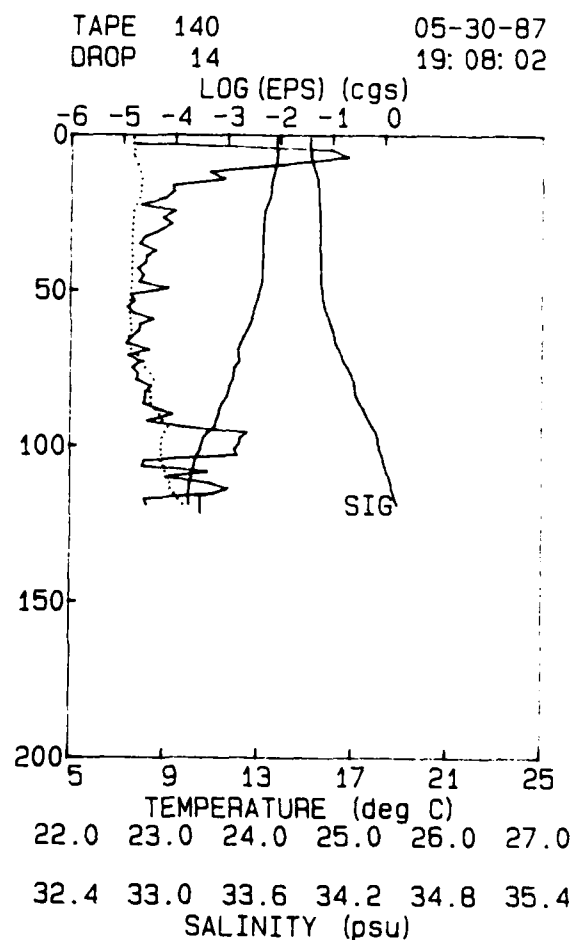
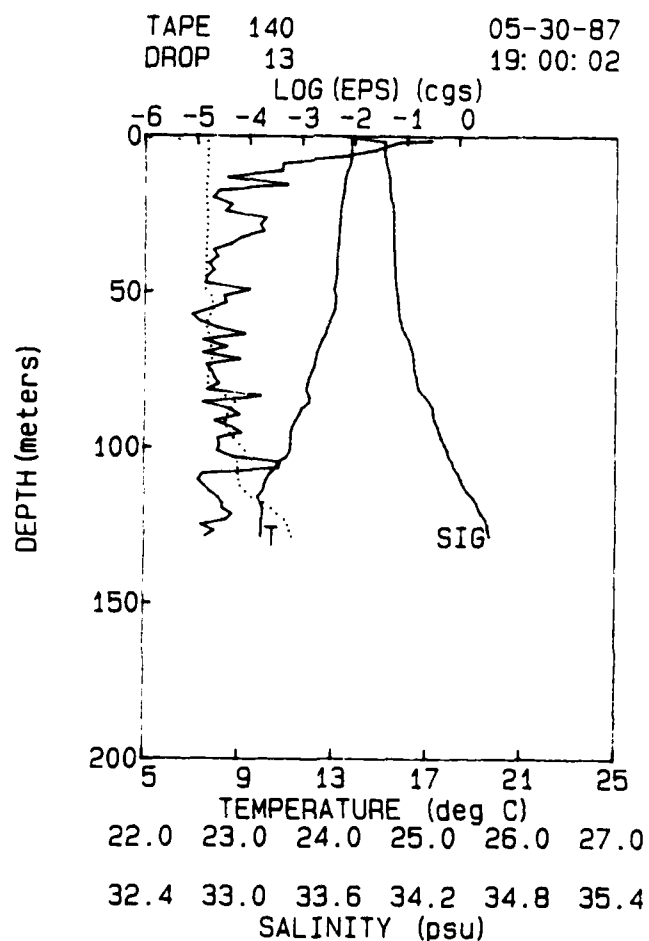


TAPE 140 05-30-87
DROP 11 18:41:48

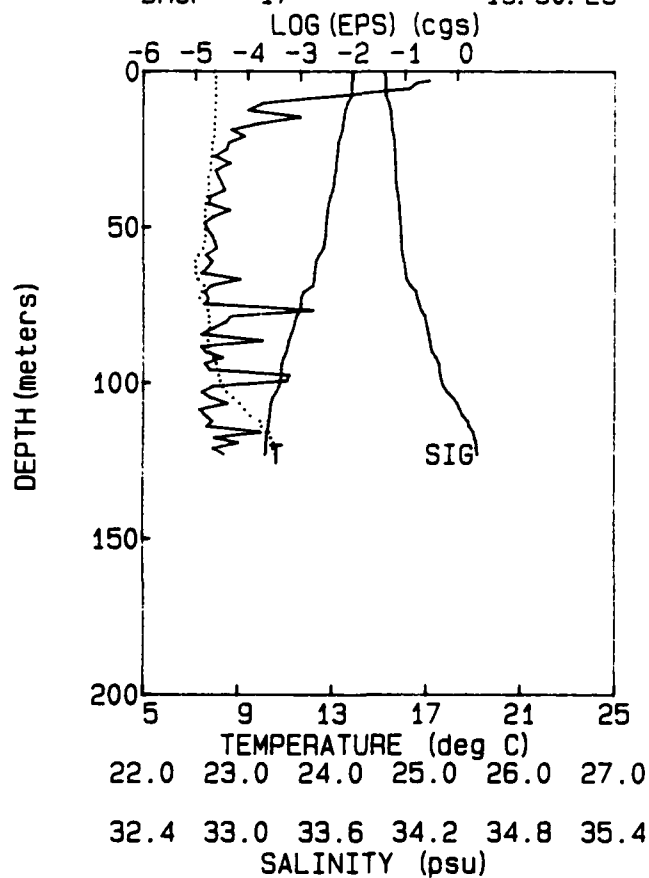


TAPE 140 05-30-87
DROP 12 18:50:53

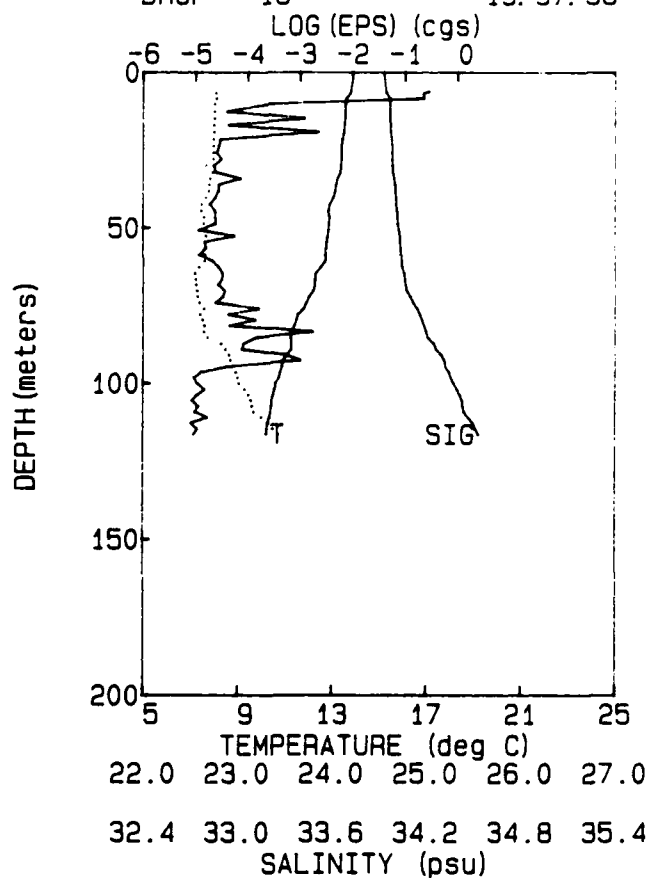




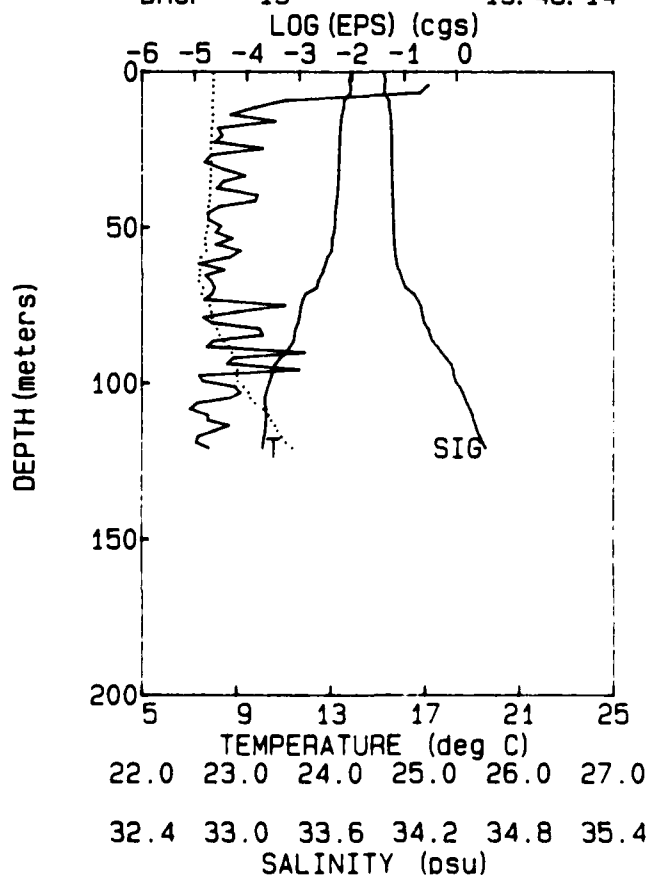
TAPE 140 05-30-87
DROP 17 19:30:23



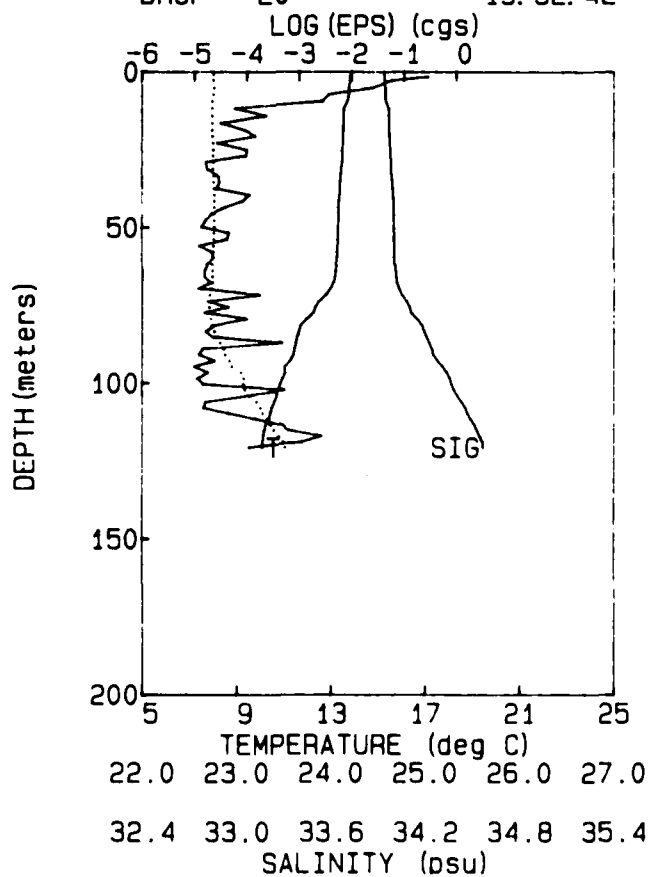
TAPE 140 05-30-87
DROP 18 19:37:58

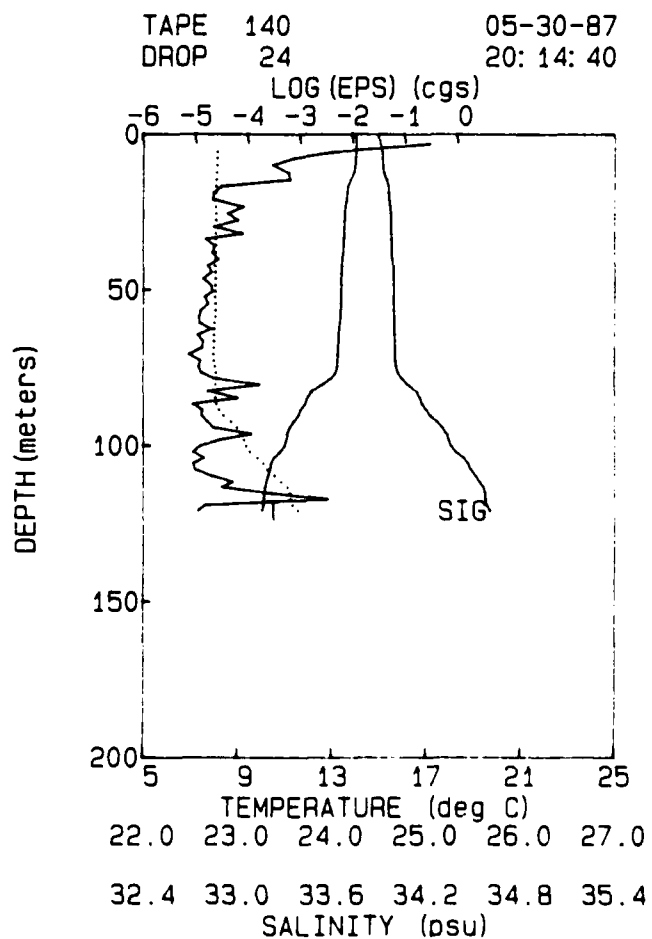
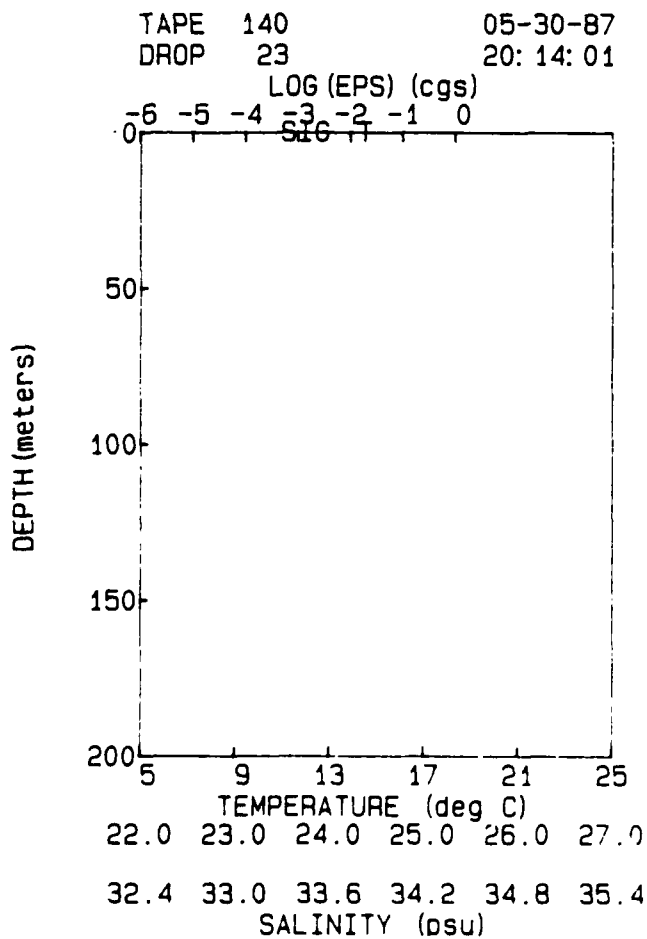
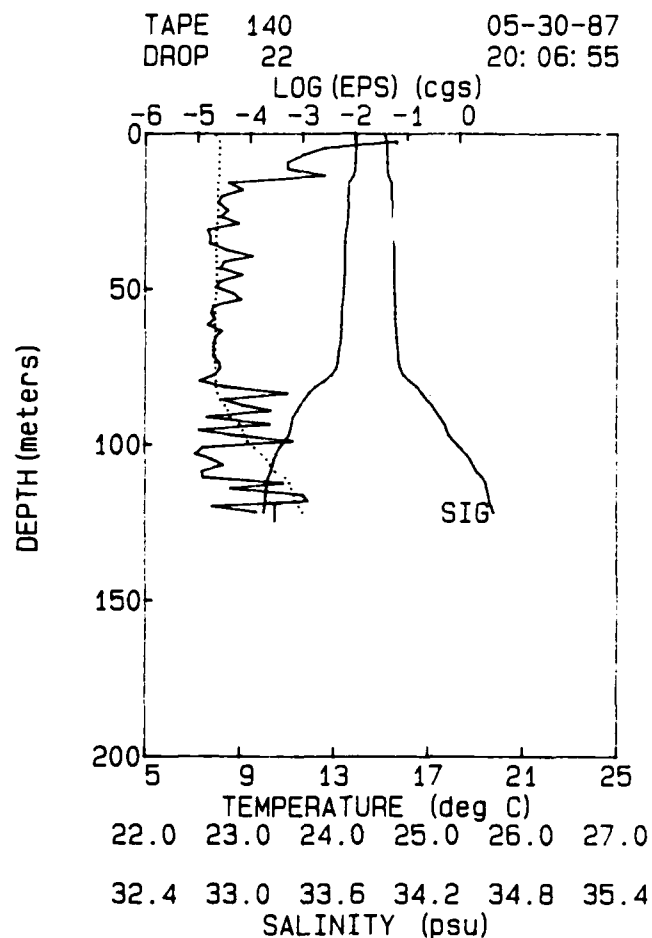
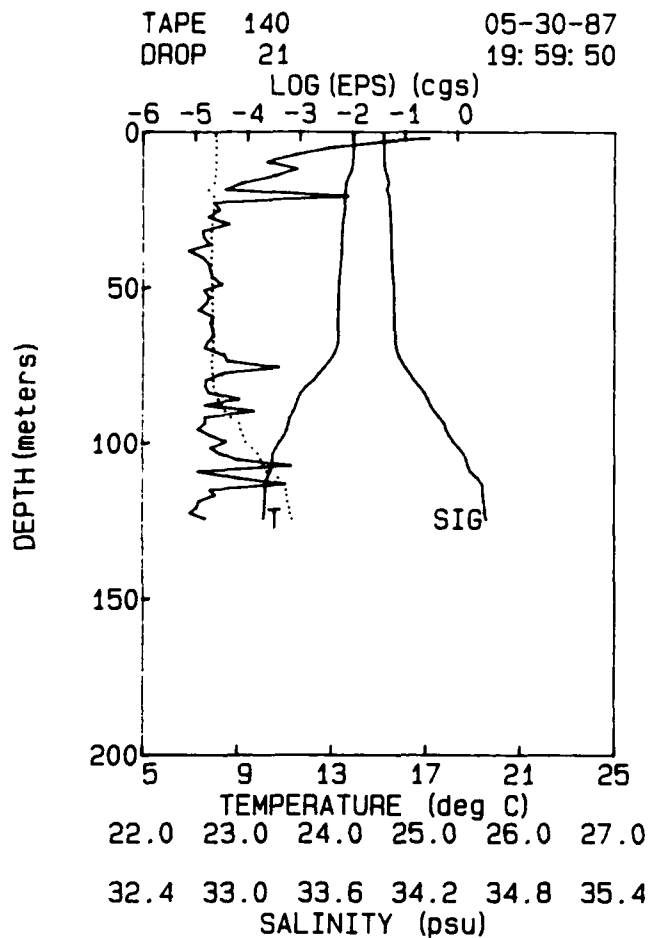


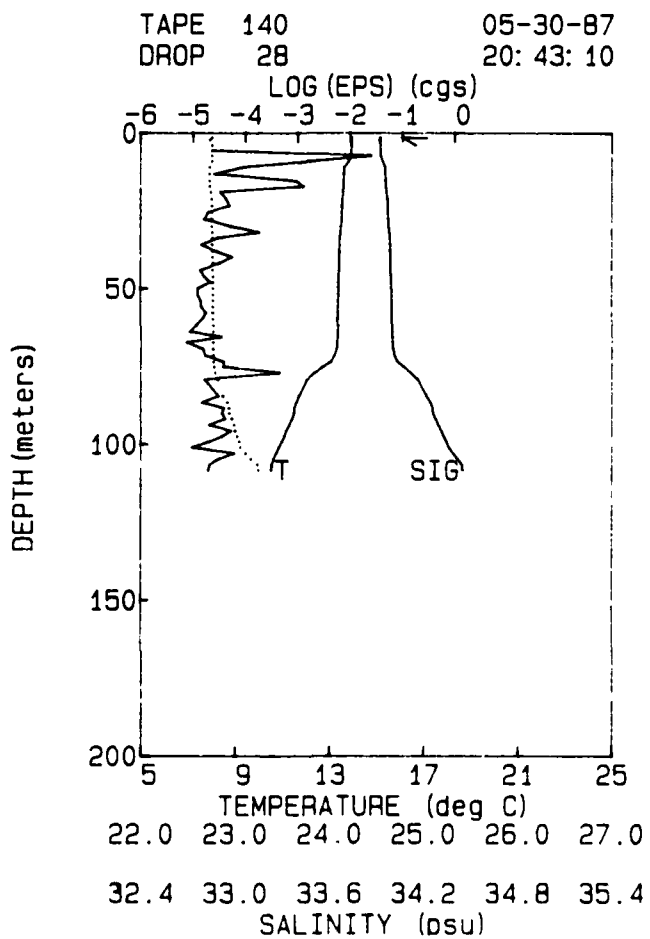
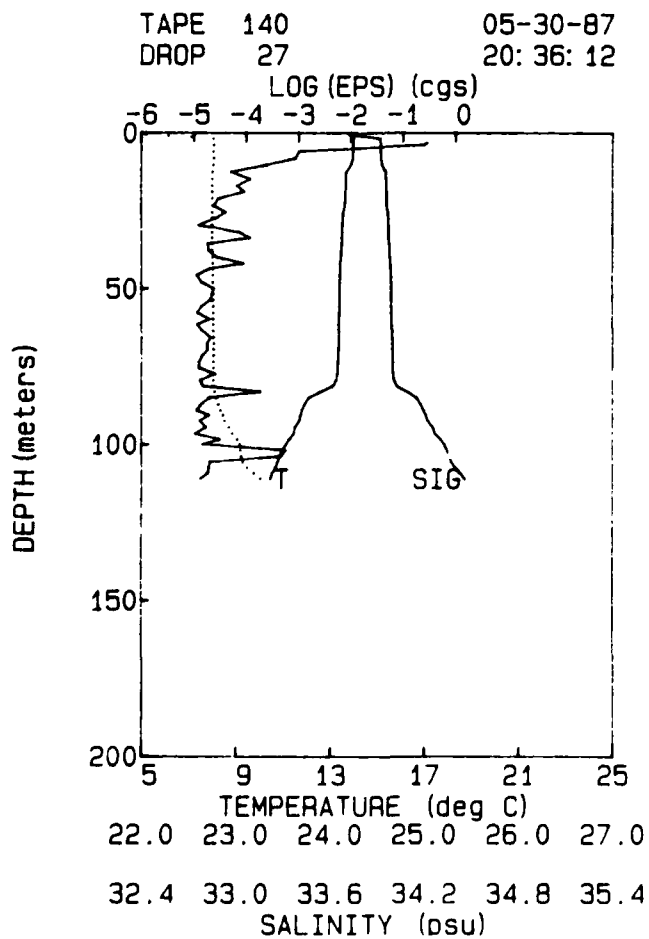
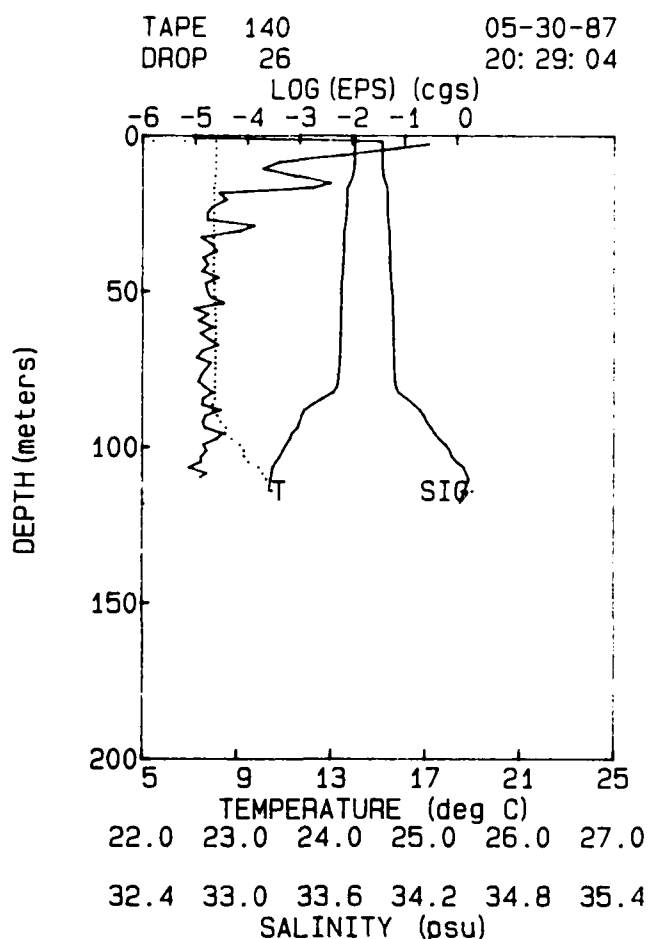
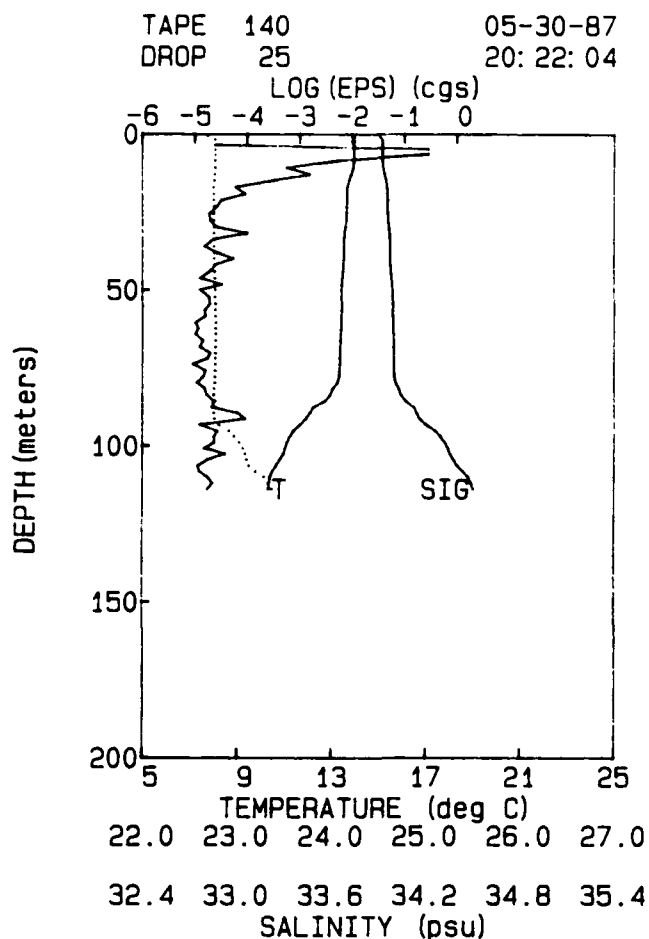
TAPE 140 05-30-87
DROP 19 19:45:14

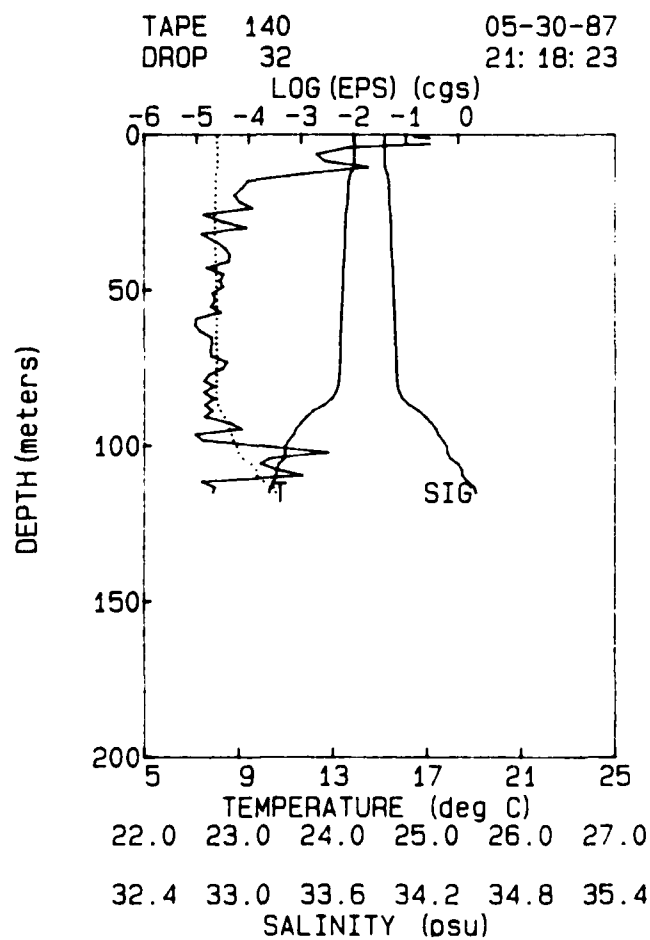
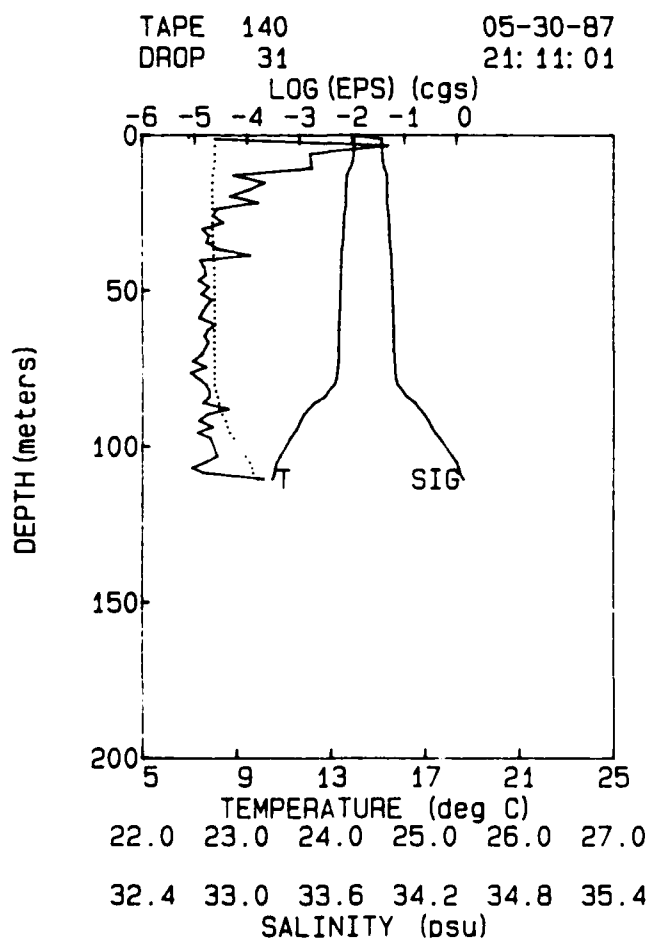
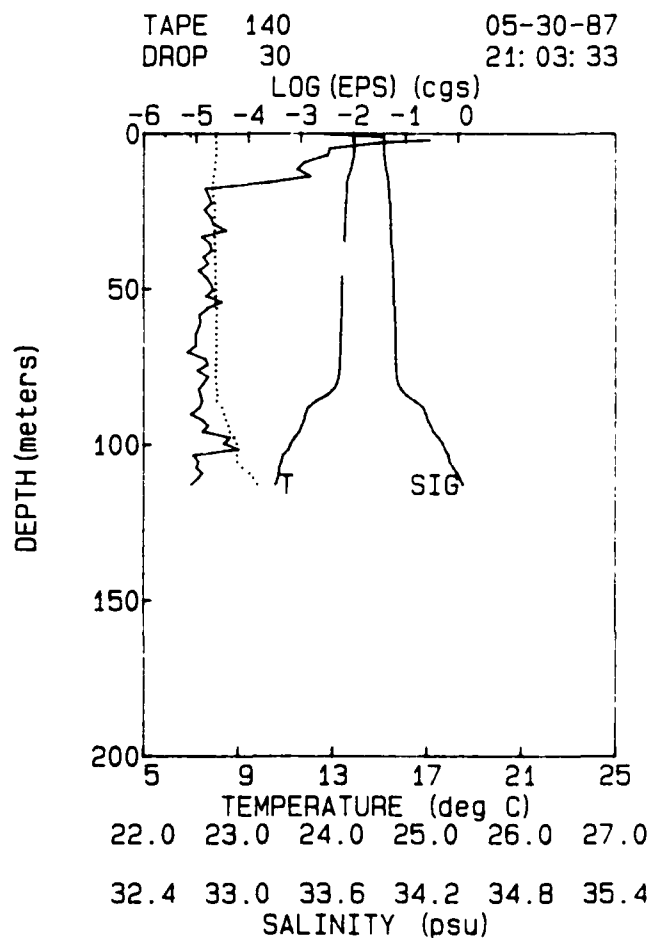
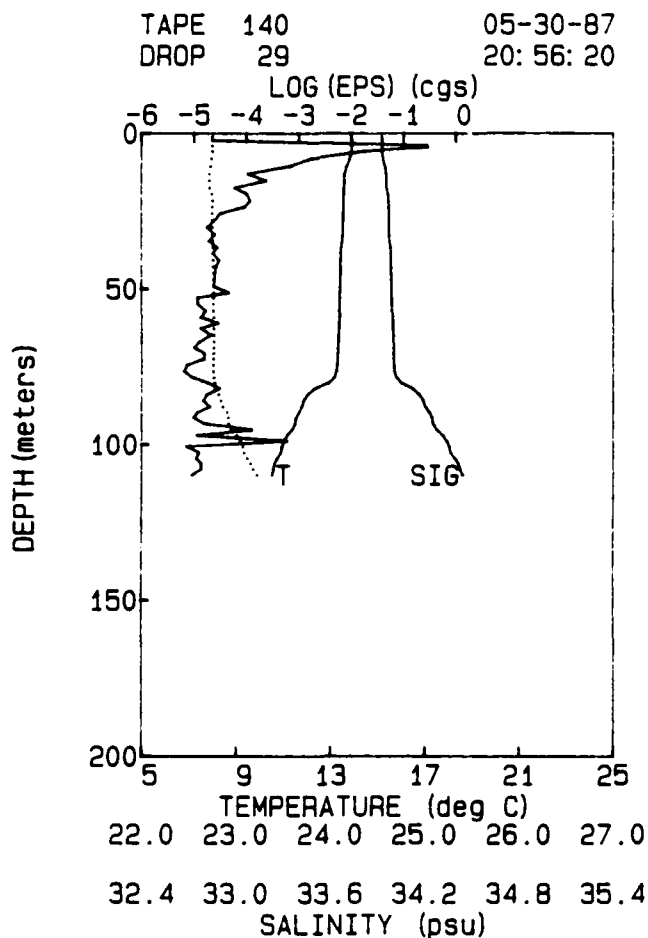


TAPE 140 05-30-87
DROP 20 19:52:42

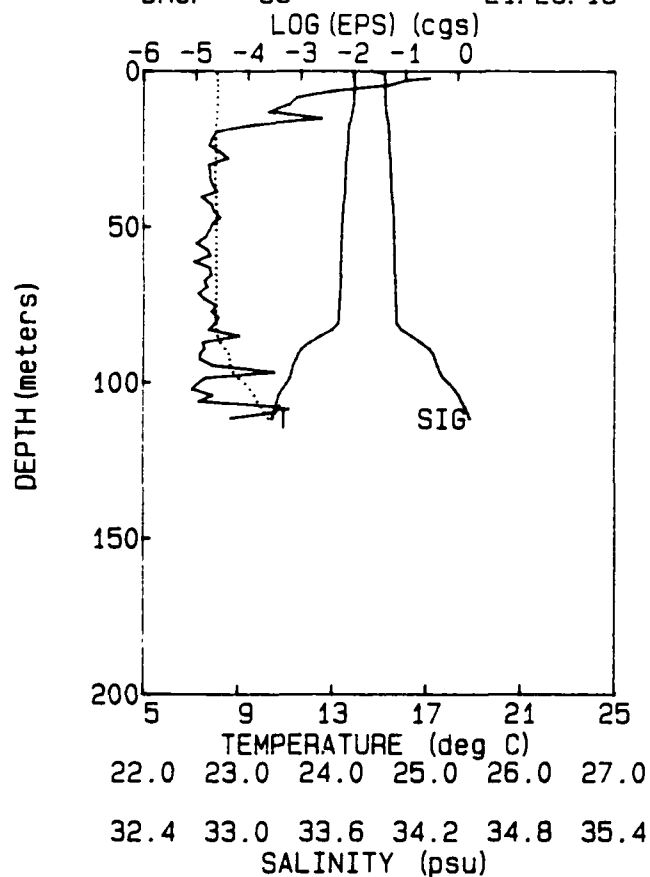




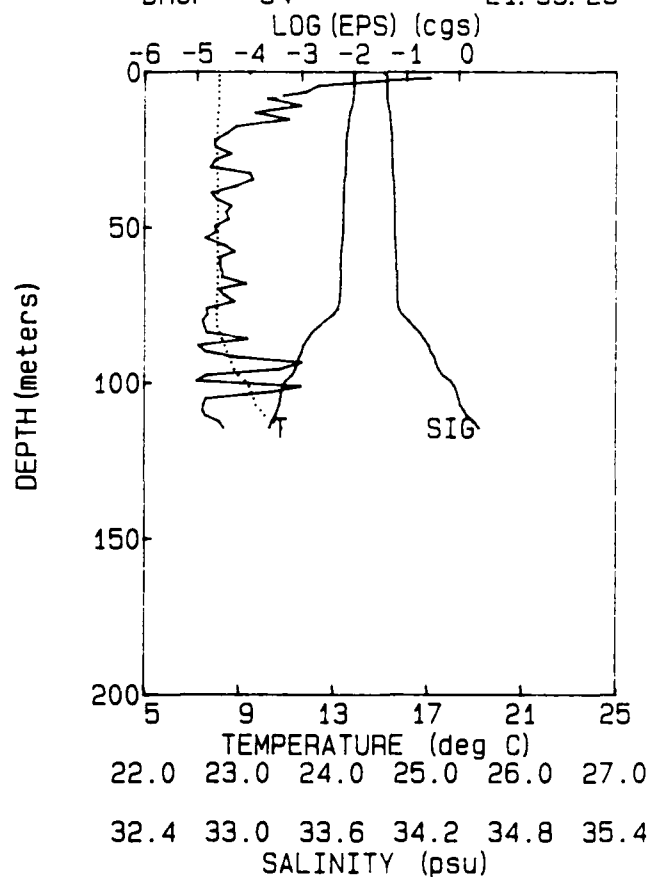




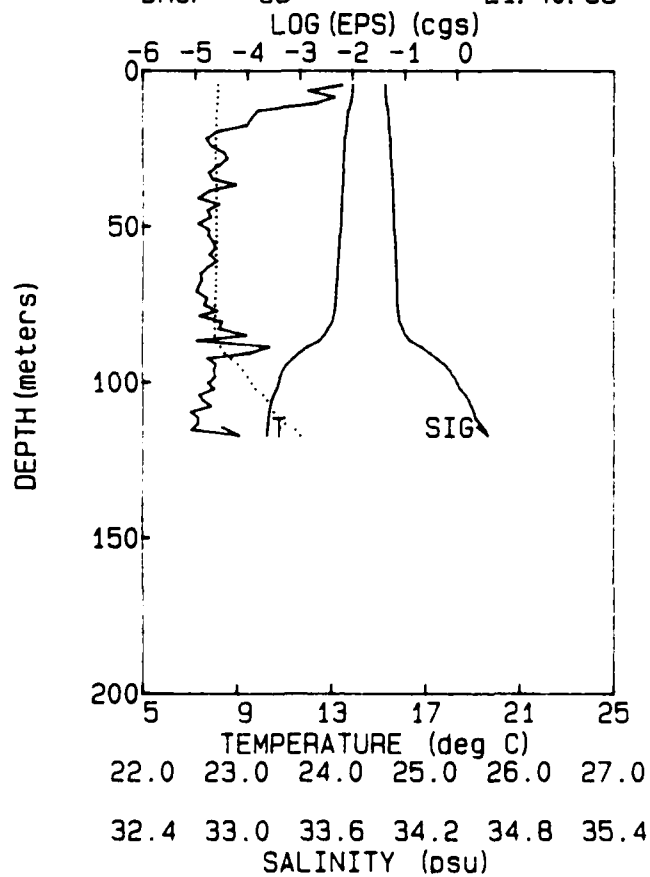
TAPE 140 05-30-87
DROP 33 21: 26: 18



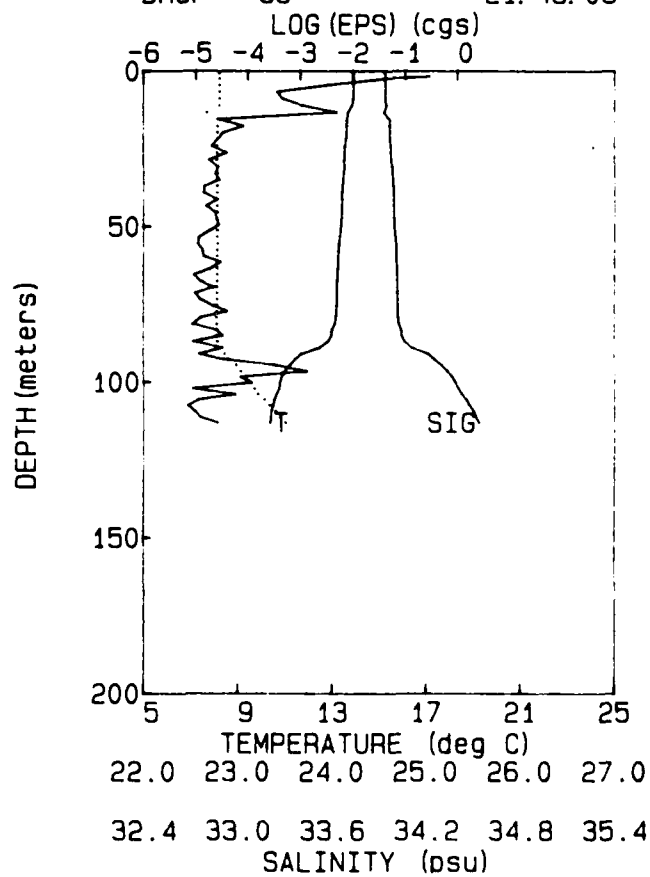
TAPE 140 05-30-87
DROP 34 21: 33: 23



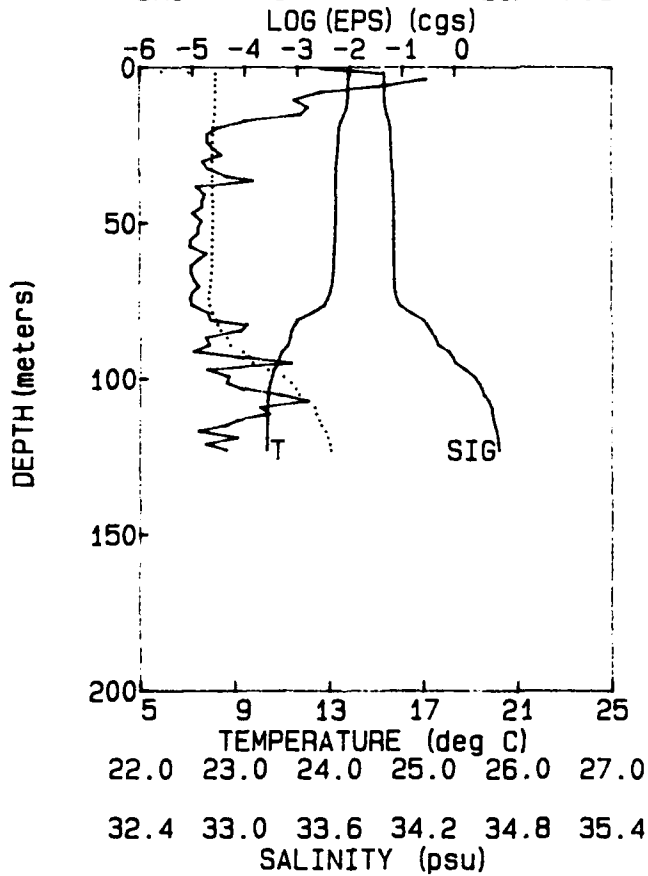
TAPE 140 05-30-87
DROP 35 21: 40: 38



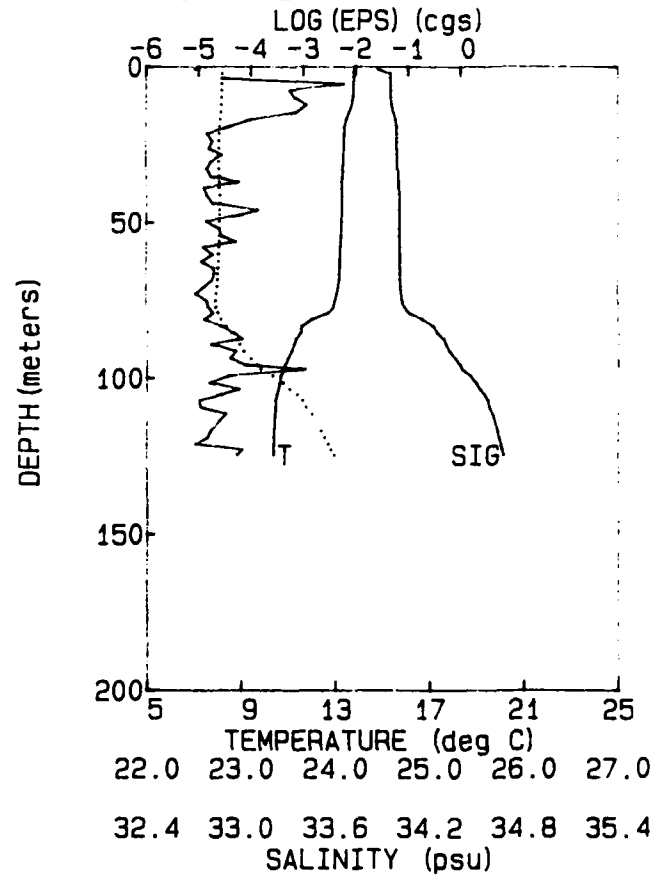
TAPE 140 05-30-87
DROP 36 21: 48: 05



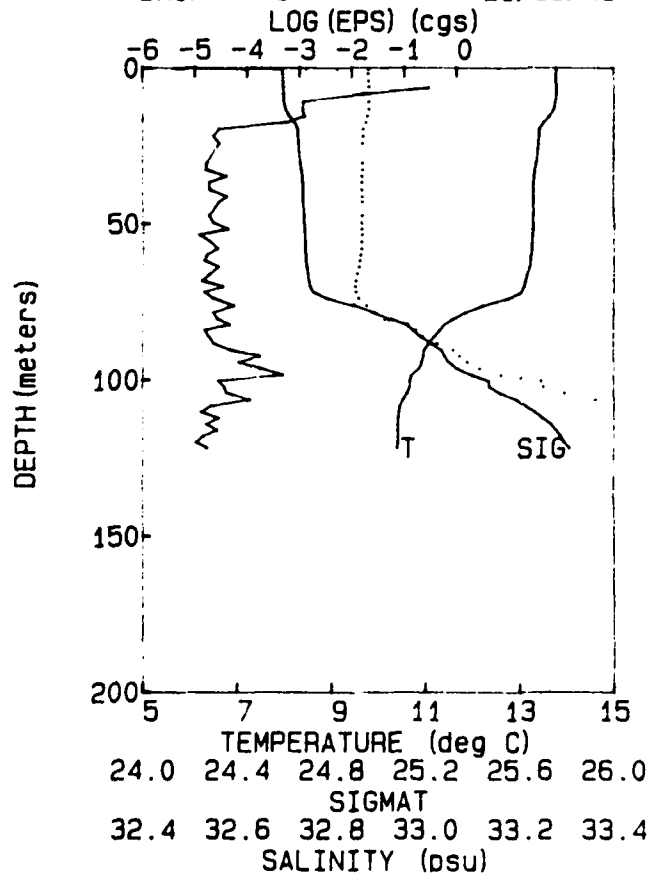
TAPE 140 05-30-87
DROP 41 23:17:01



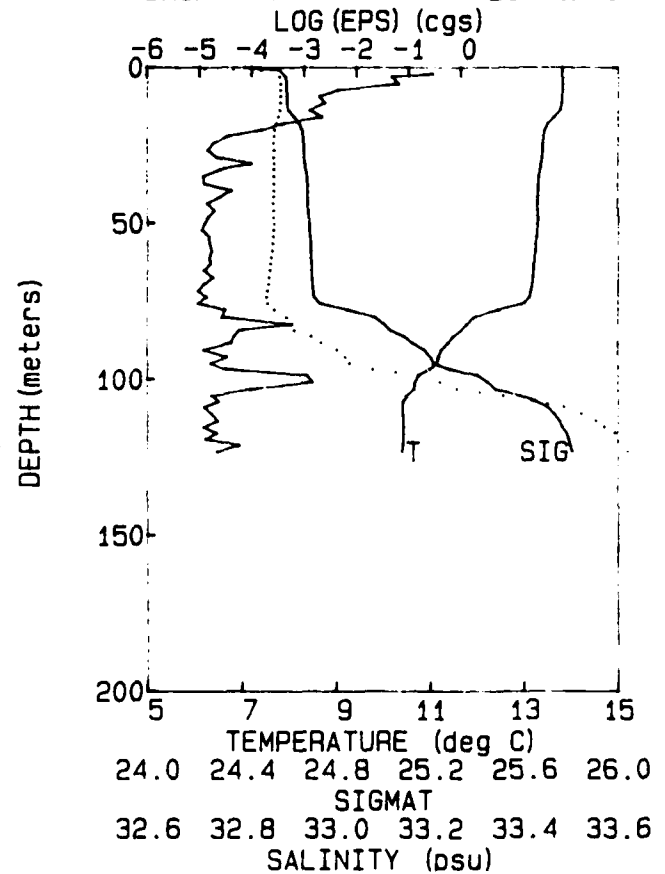
TAPE 140 05-30-87
DROP 42 23:25:05



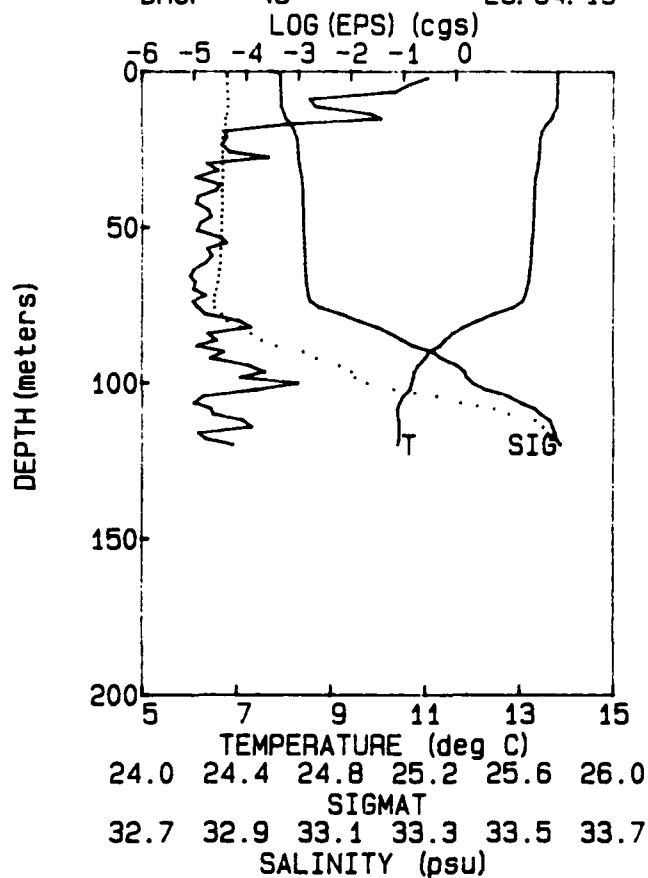
TAPE 140 05-30-87
DROP 43 23:35:41



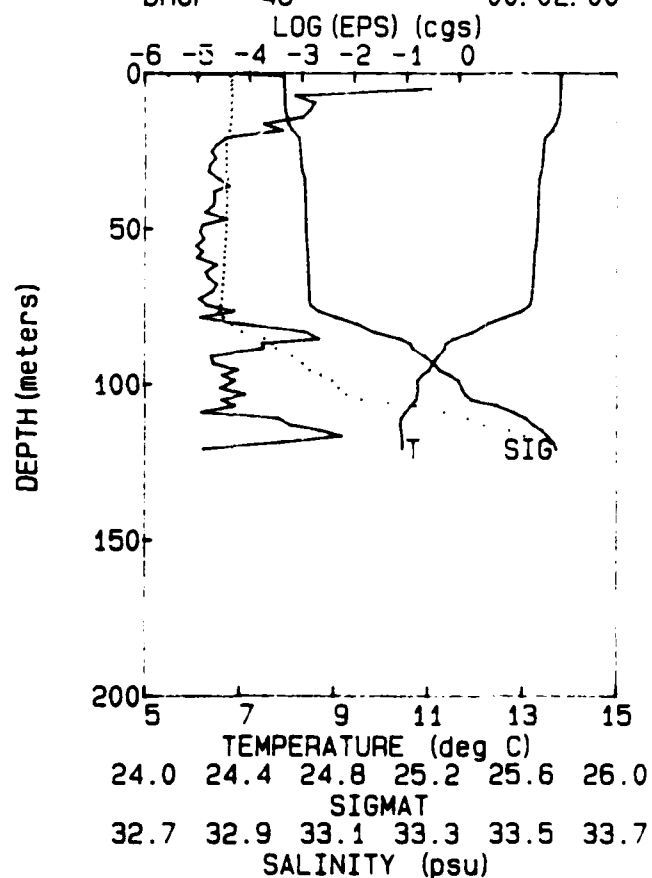
TAPE 140 05-30-87
DROP 44 23:45:40



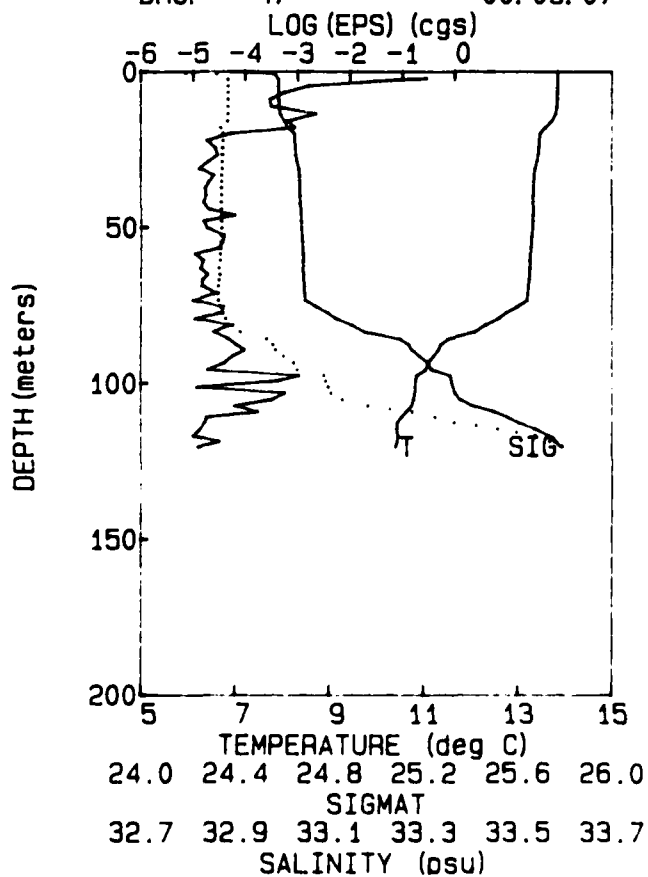
TAPE 140 05-30-87
DROP 45 23:54:19



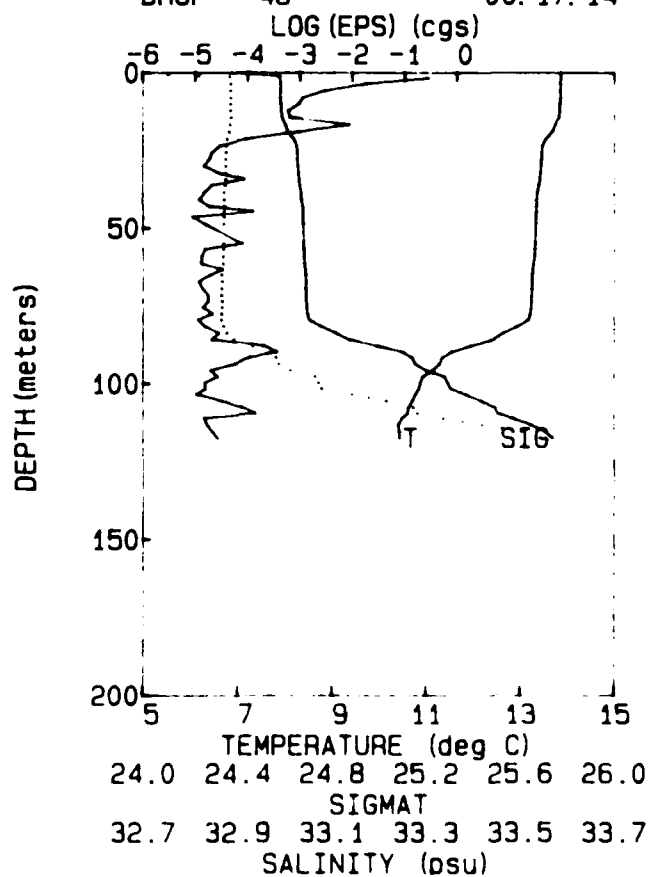
TAPE 140 05-31-87
DROP 46 00:02:00



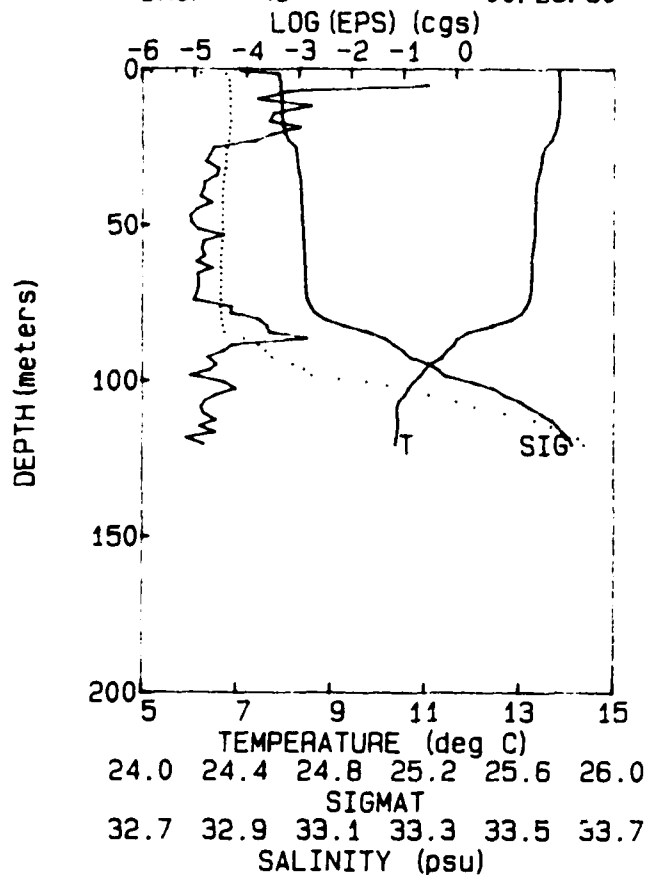
TAPE 140 05-31-87
DROP 47 00:09:07



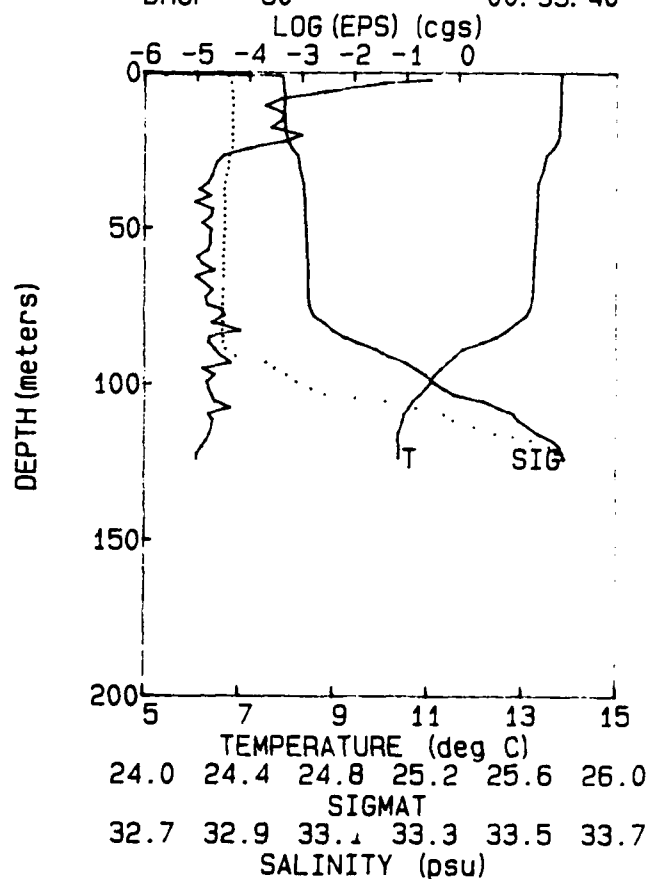
TAPE 140 05-31-87
DROP 48 00:17:14



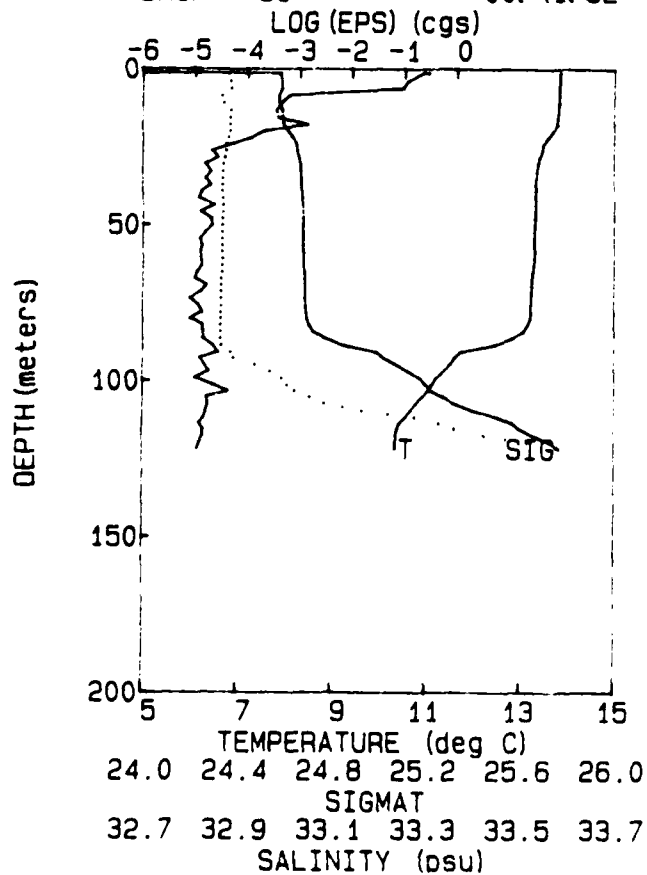
TAPE 140 05-31-87
 DROP 49 00: 25: 50



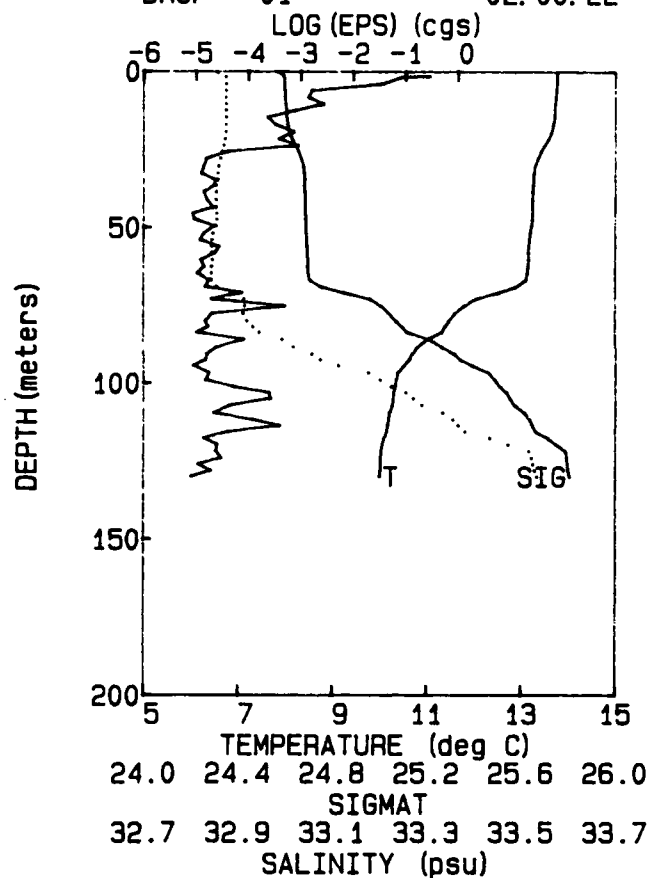
TAPE 140 05-31-87
 DROP 50 00: 33: 40



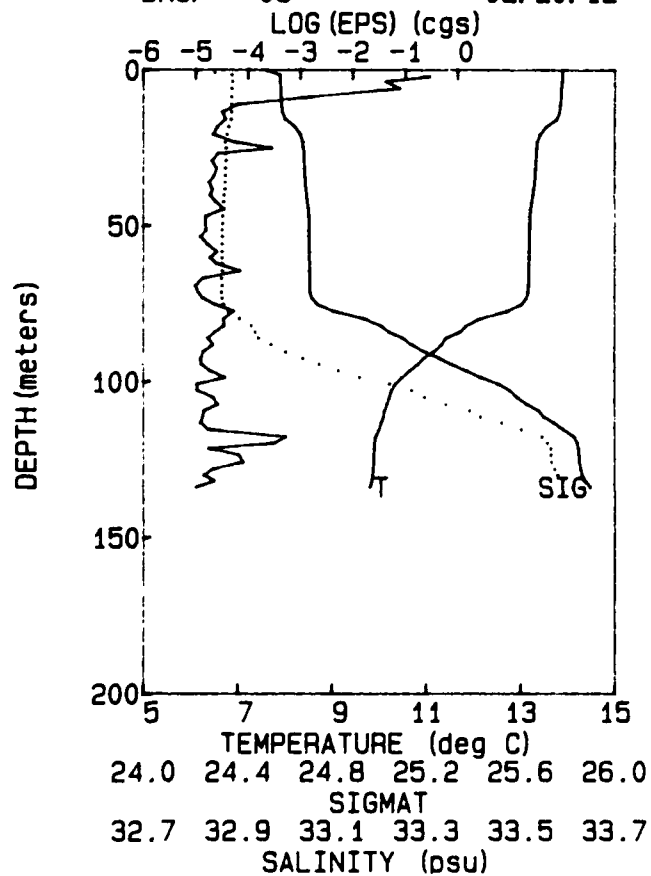
TAPE 140 05-31-87
 DROP 51 00: 41: 52



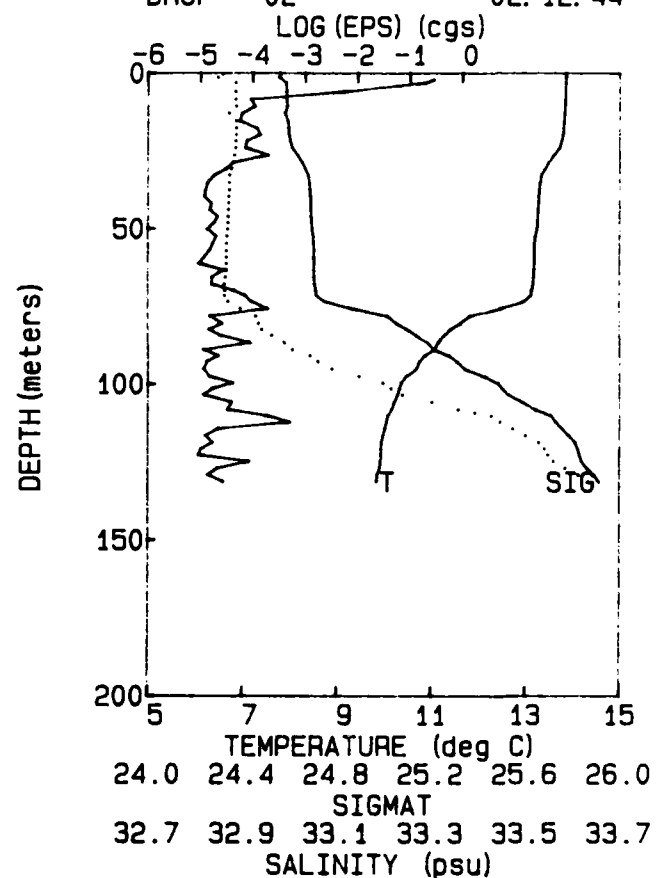
TAPE 141 05-31-87
DROP 01 02: 00: 22



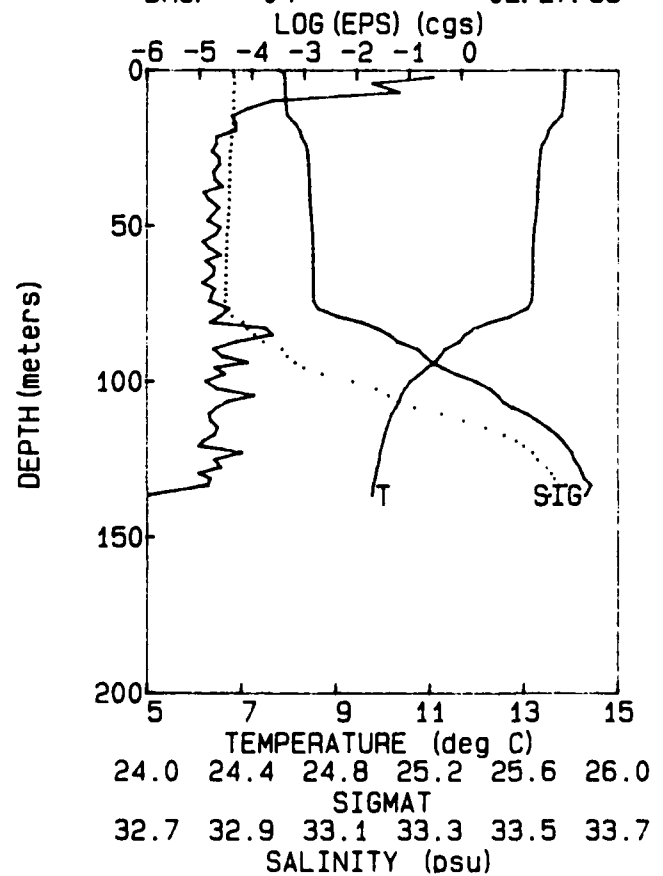
TAPE 141 05-31-87
DROP 03 02: 20: 12

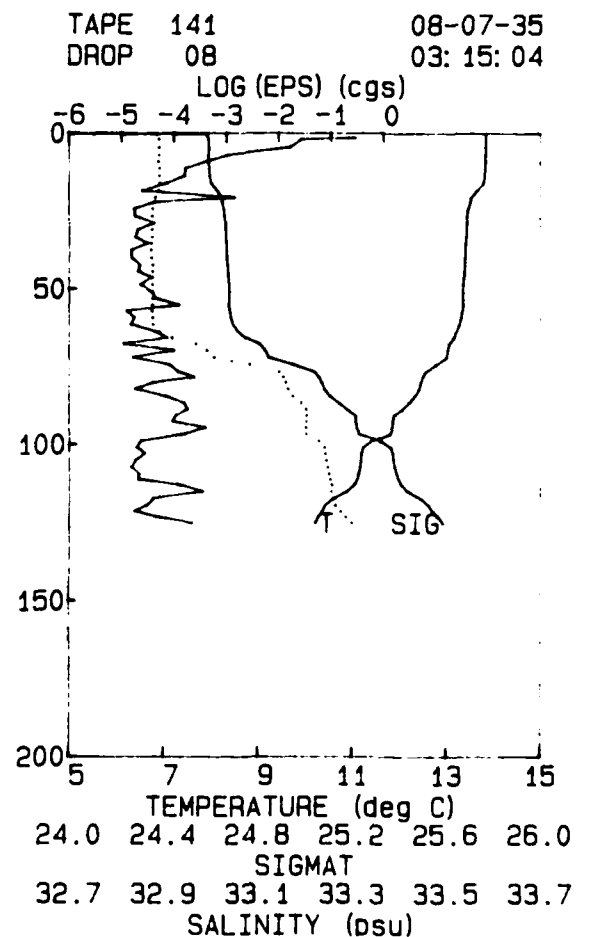
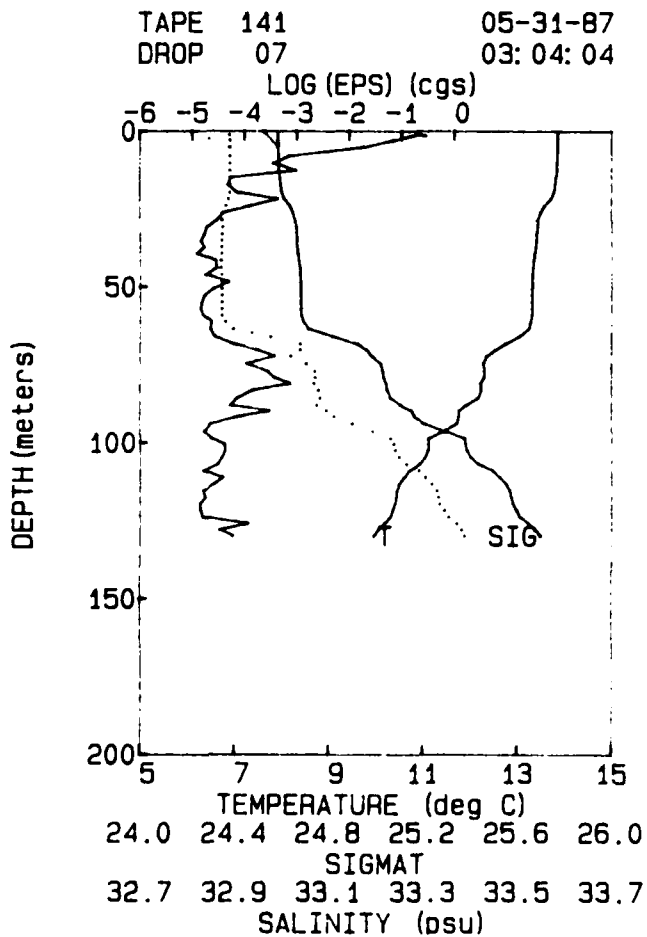
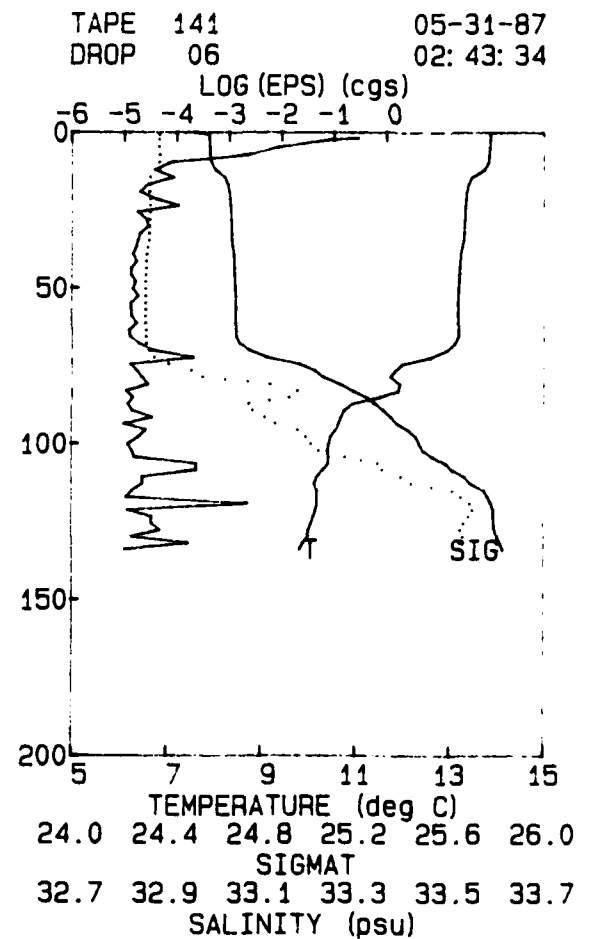
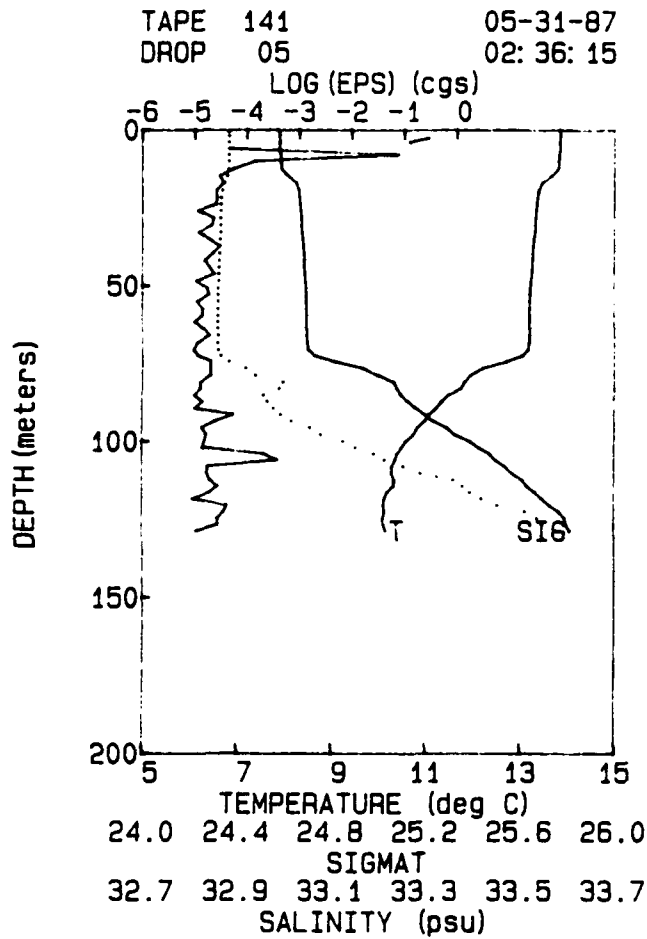


TAPE 141 05-31-87
DROP 02 02: 12: 44

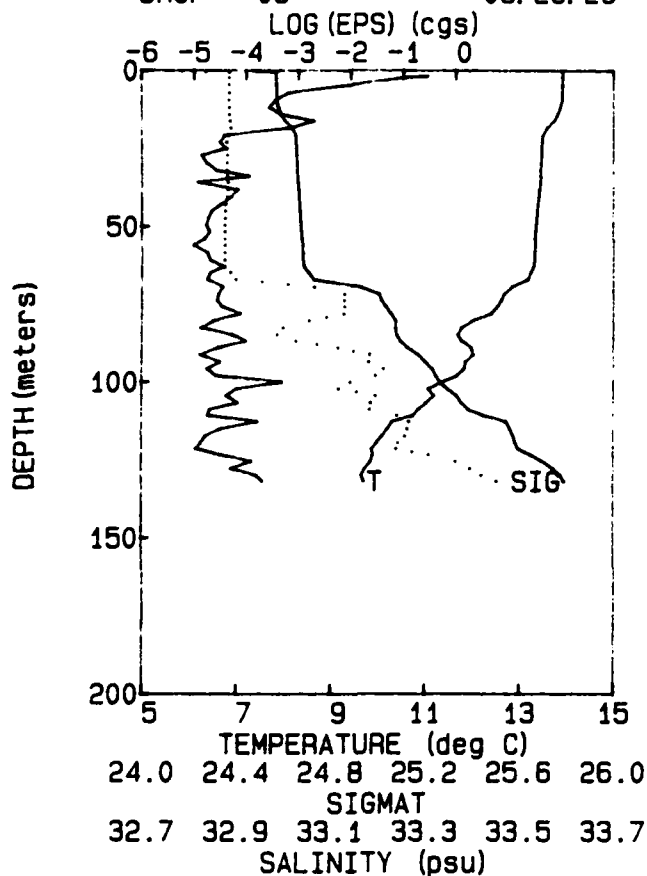


TAPE 141 05-31-87
DROP 04 02: 27: 35

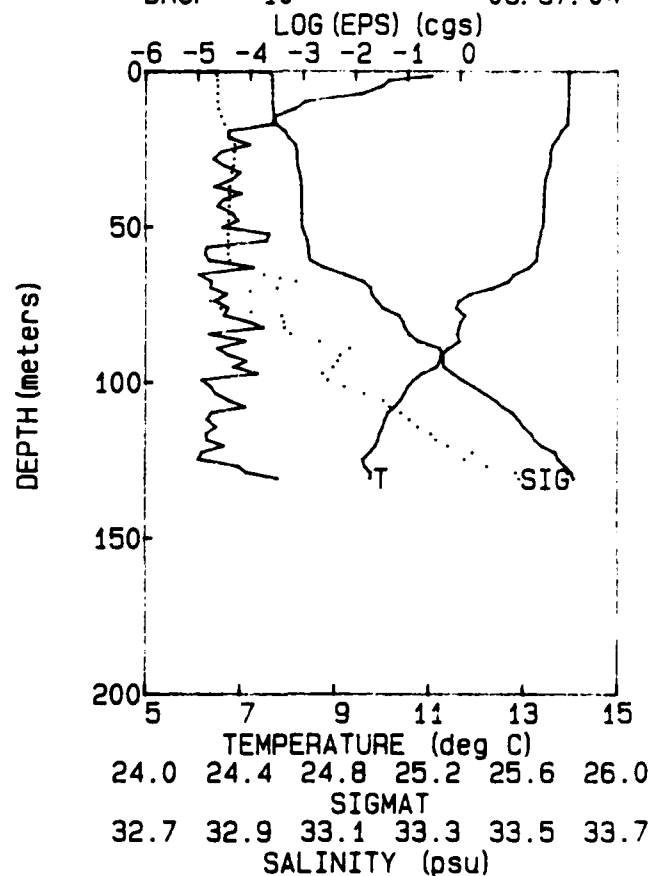




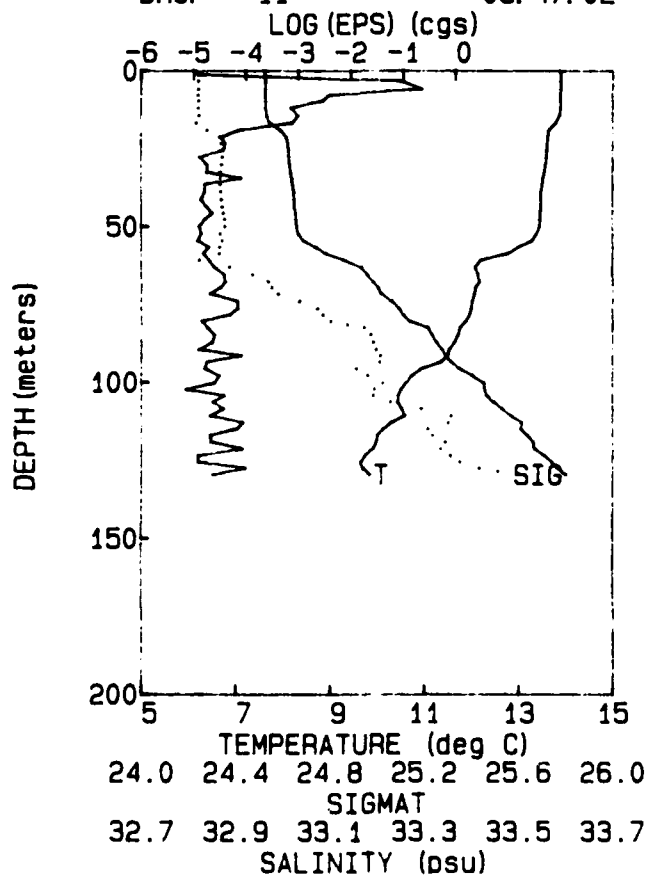
TAPE 141 05-31-87
DROP 09 03:26:26



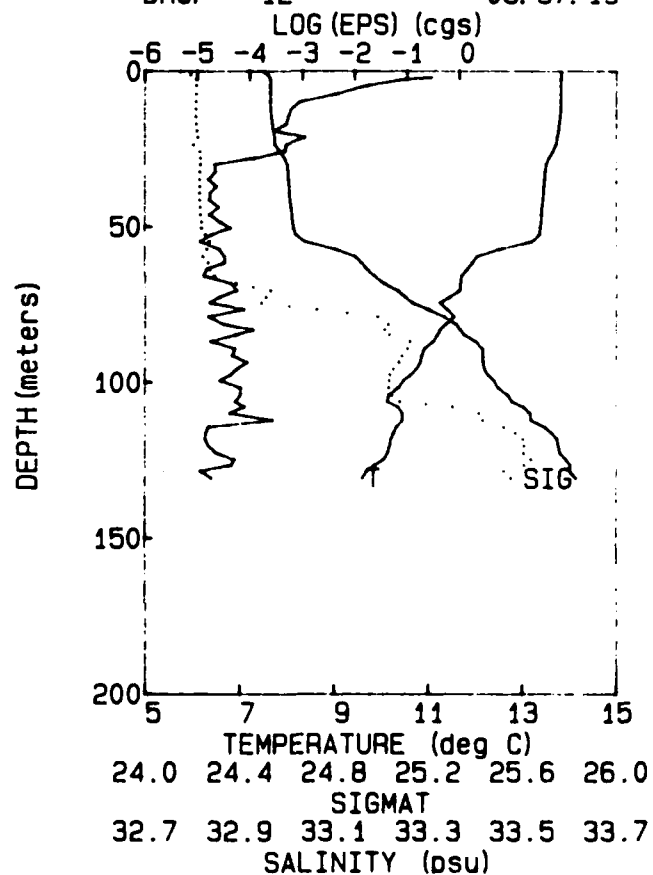
TAPE 141 05-31-87
DROP 10 03:37:04

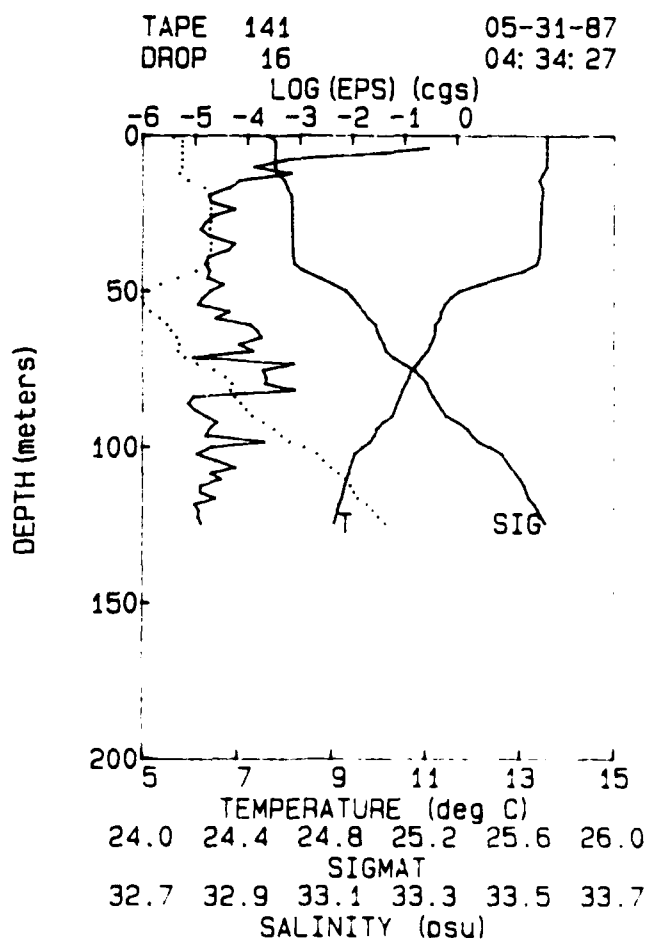
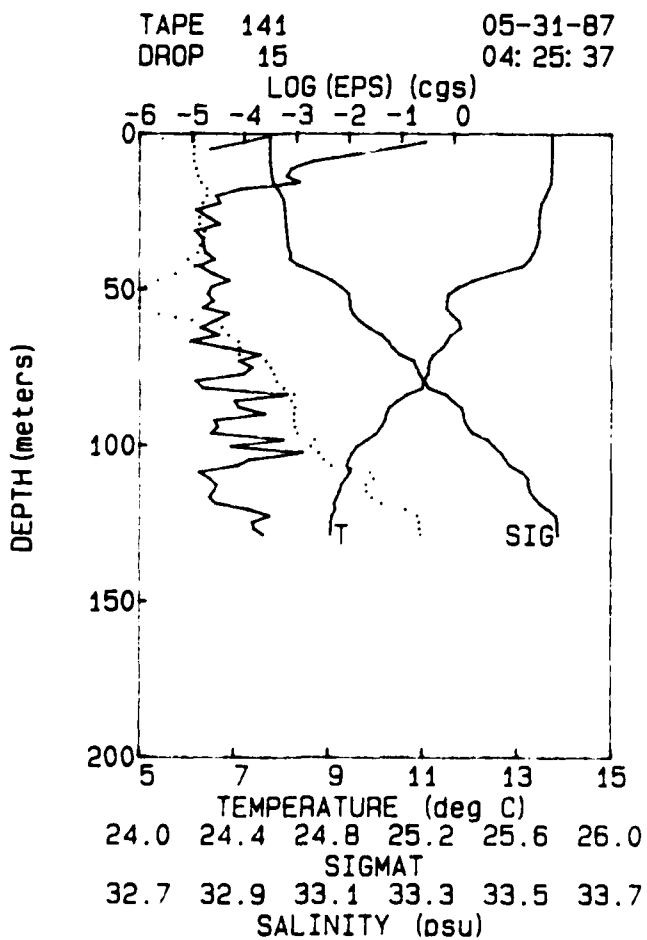
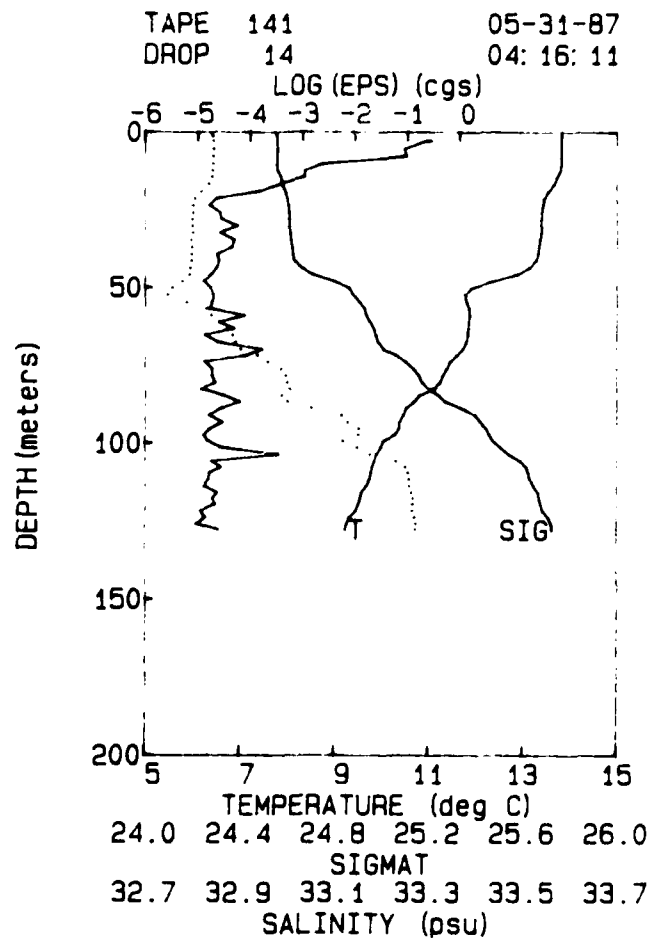
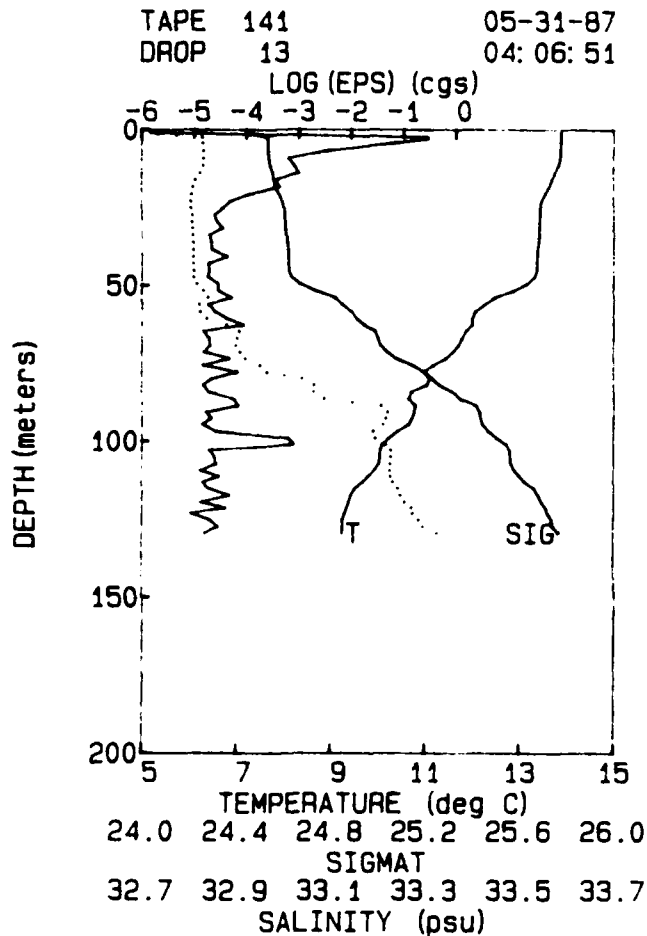


TAPE 141 05-31-87
DROP 11 03:47:02

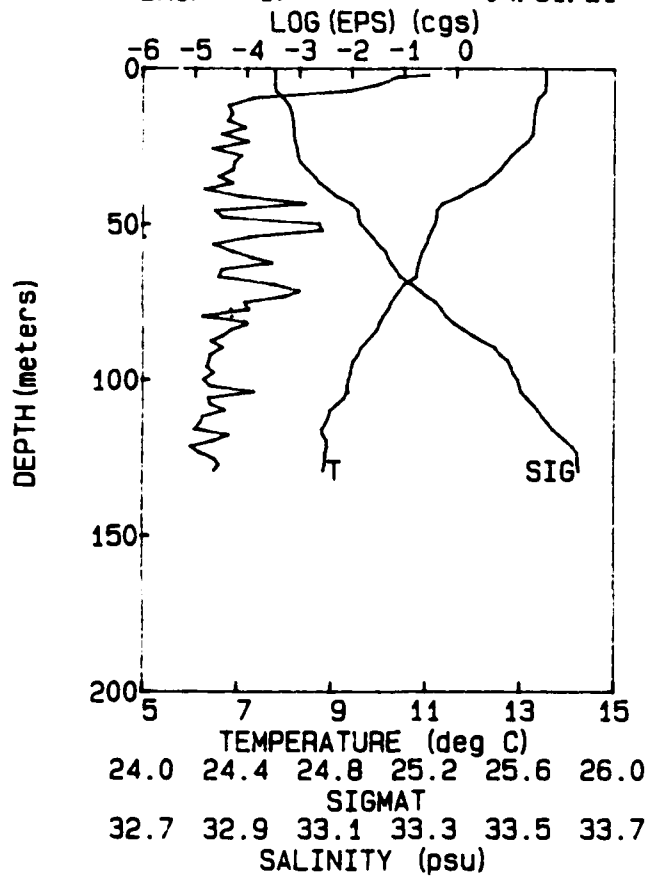


TAPE 141 05-31-87
DROP 12 03:57:19

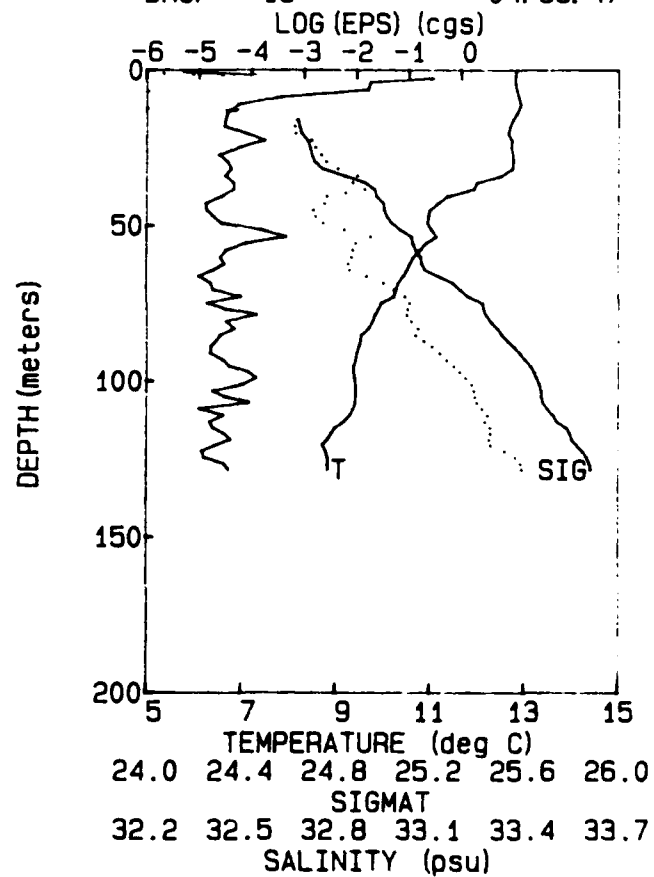




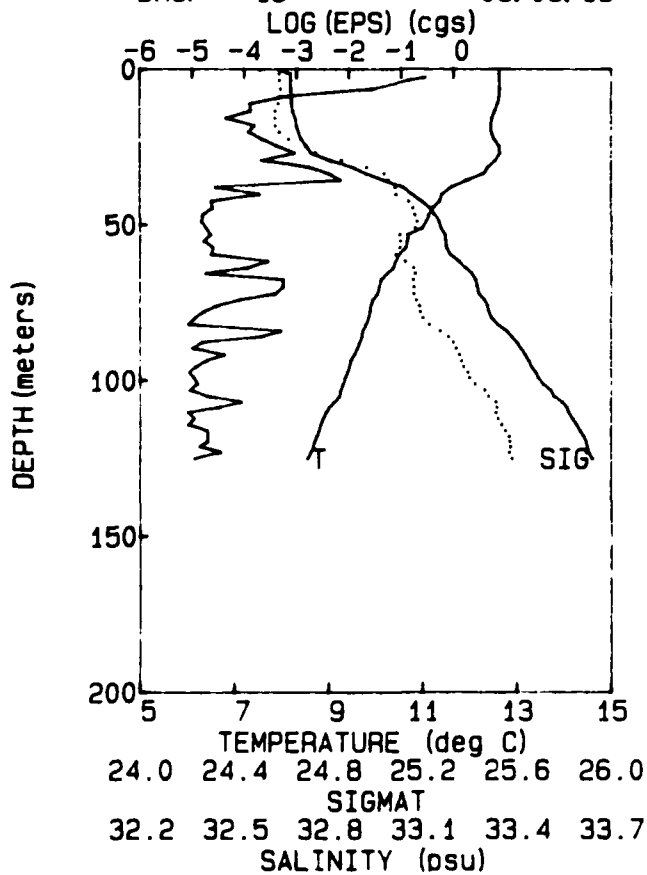
TAPE 141 05-31-87
DROP 17 04: 51: 21



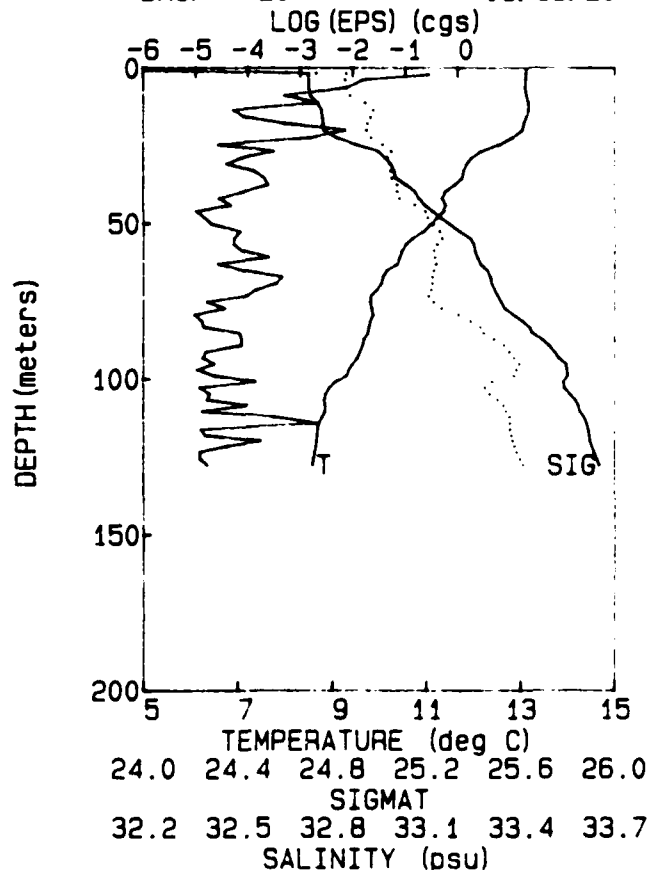
TAPE 141 05-31-87
DROP 18 04: 58: 47



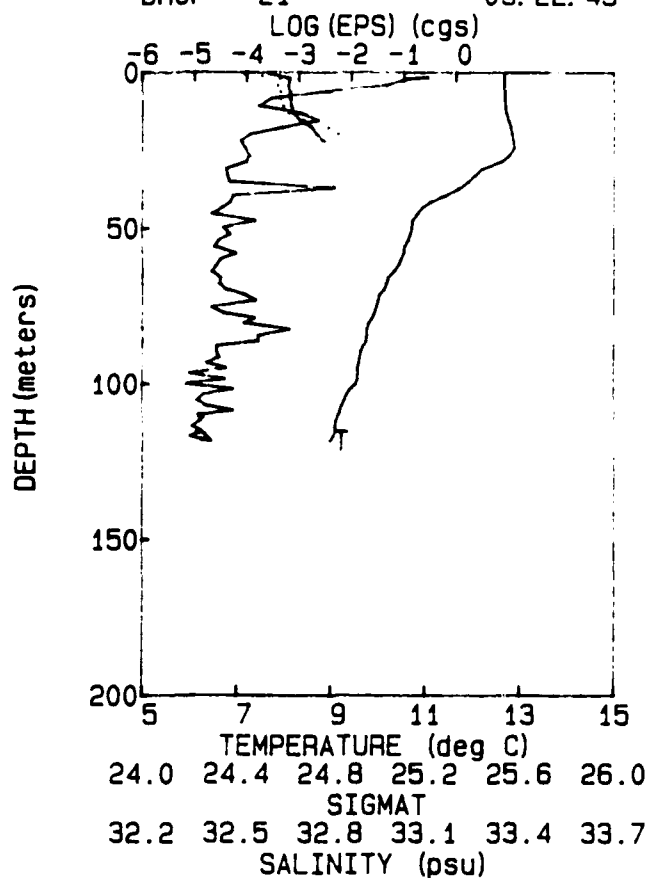
TAPE 141 05-31-87
DROP 19 05: 06: 18



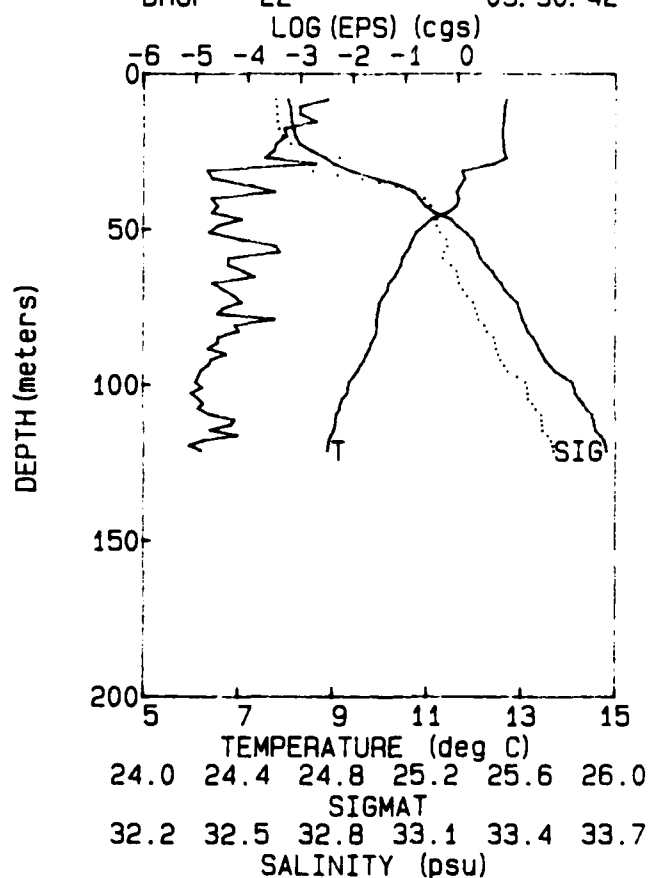
TAPE 141 05-31-87
DROP 20 05: 15: 20



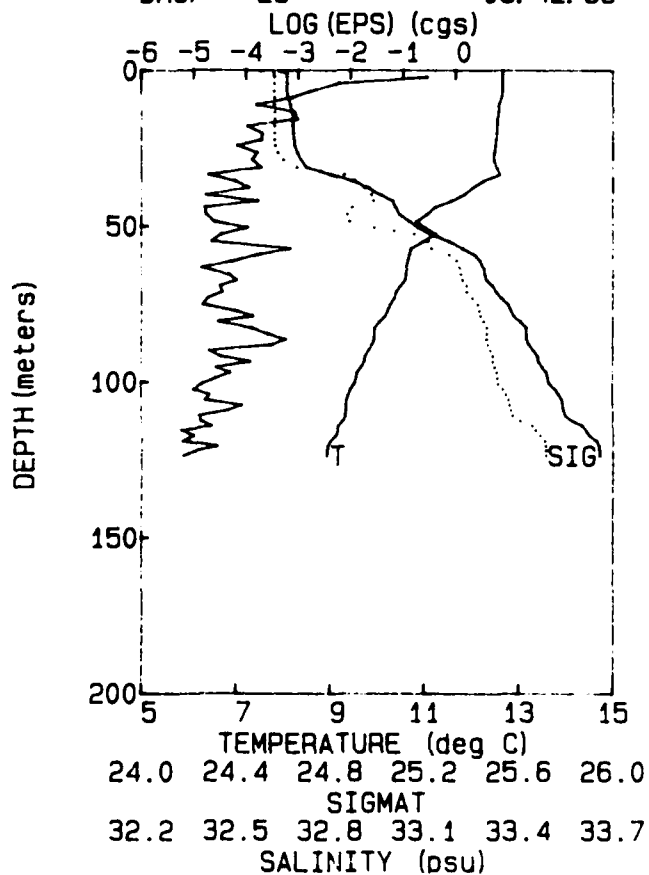
TAPE 141 05-31-87
DROP 21 05: 22: 45



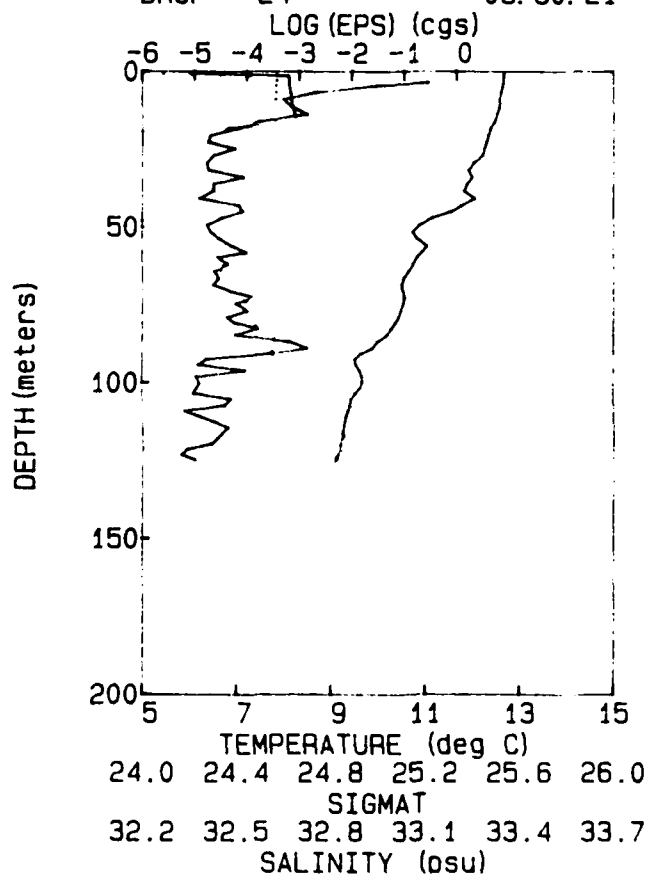
TAPE 141 05-31-87
DROP 22 05: 30: 42



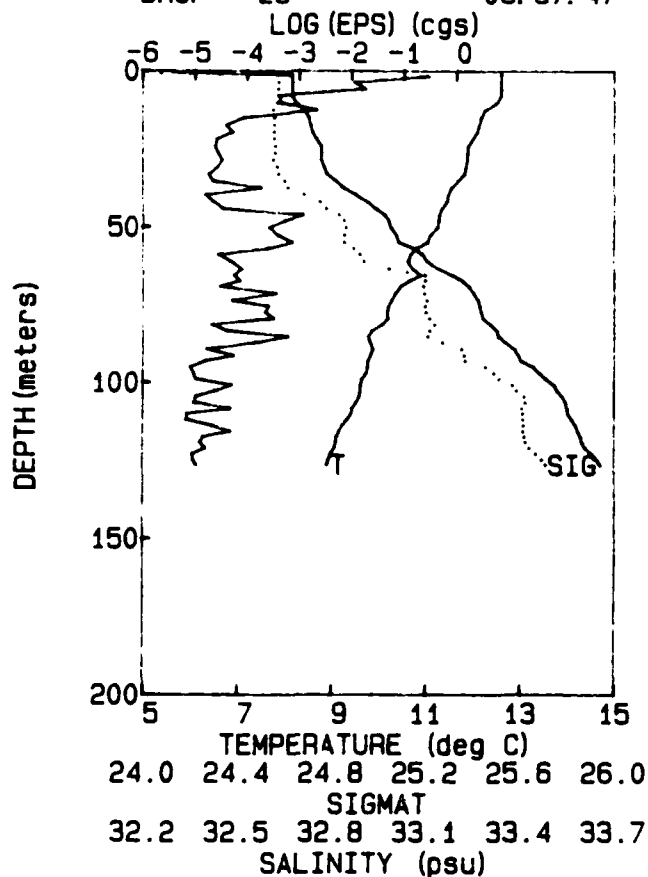
TAPE 141 05-31-87
DROP 23 05: 42: 58



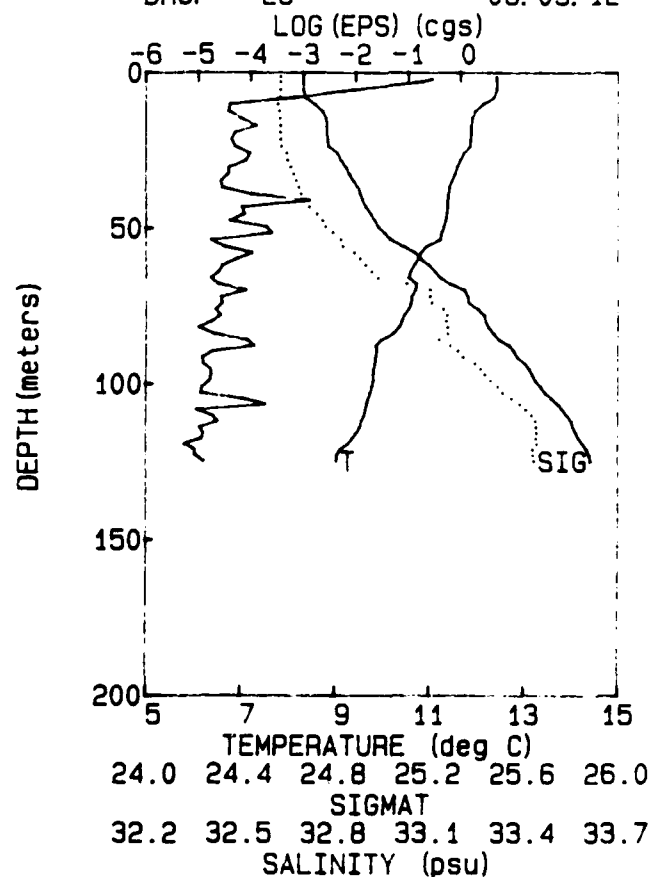
TAPE 141 05-31-87
DROP 24 05: 50: 21



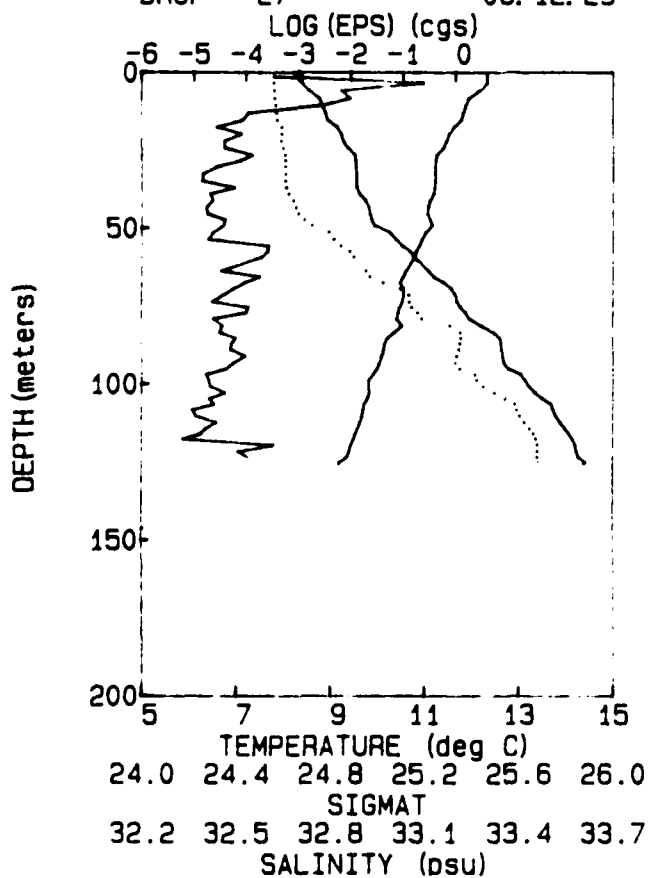
TAPE 141 05-31-87
DROP 25 05: 57: 47



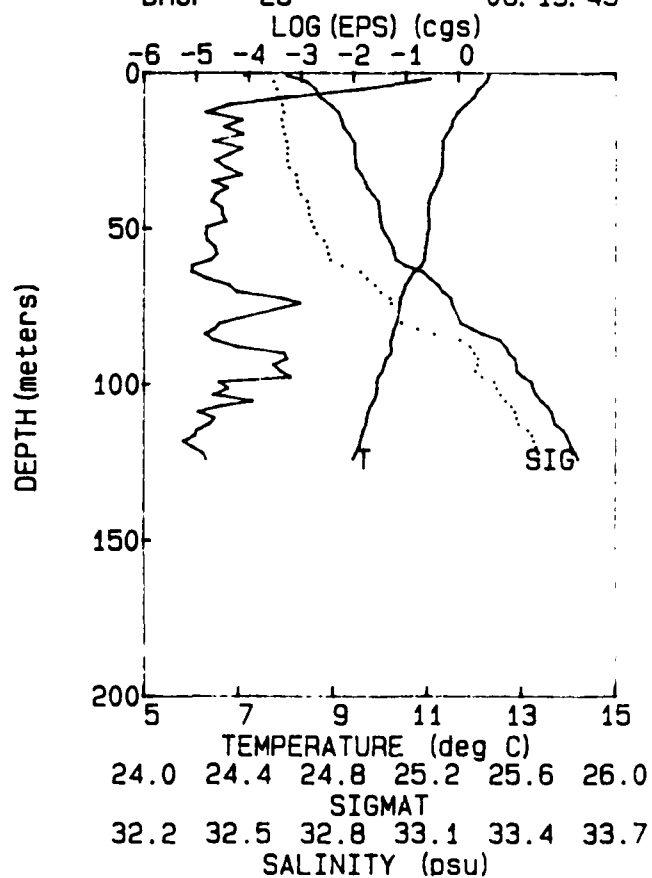
TAPE 141 05-31-87
DROP 26 06: 05: 12



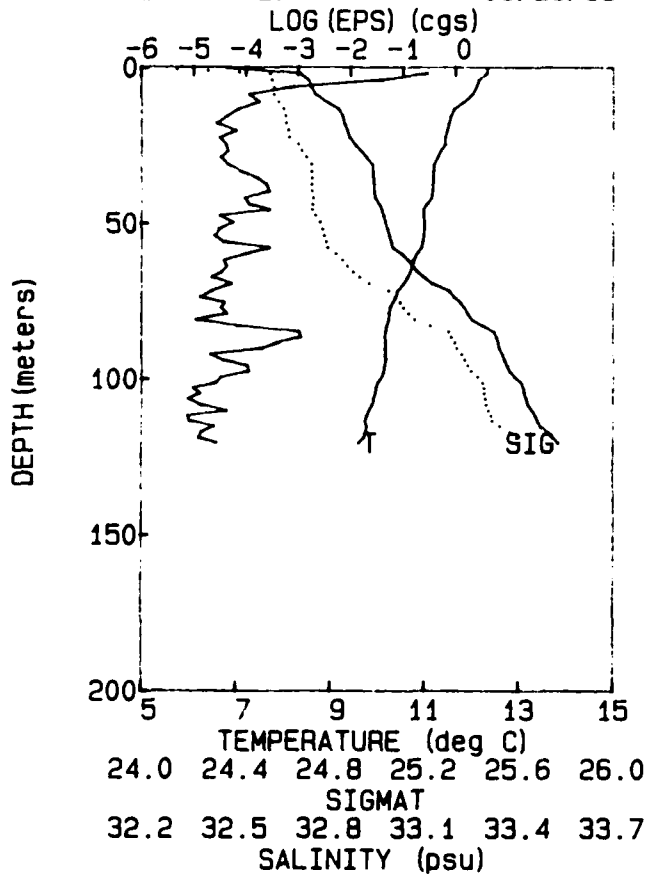
TAPE 141 05-31-87
DROP 27 06: 12: 29



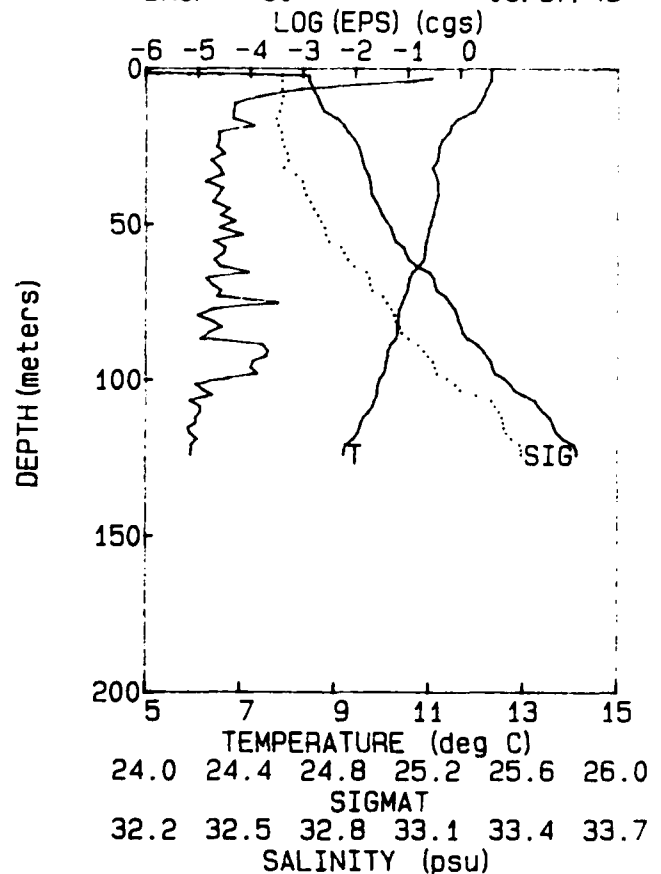
TAPE 141 05-31-87
DROP 28 06: 19: 43



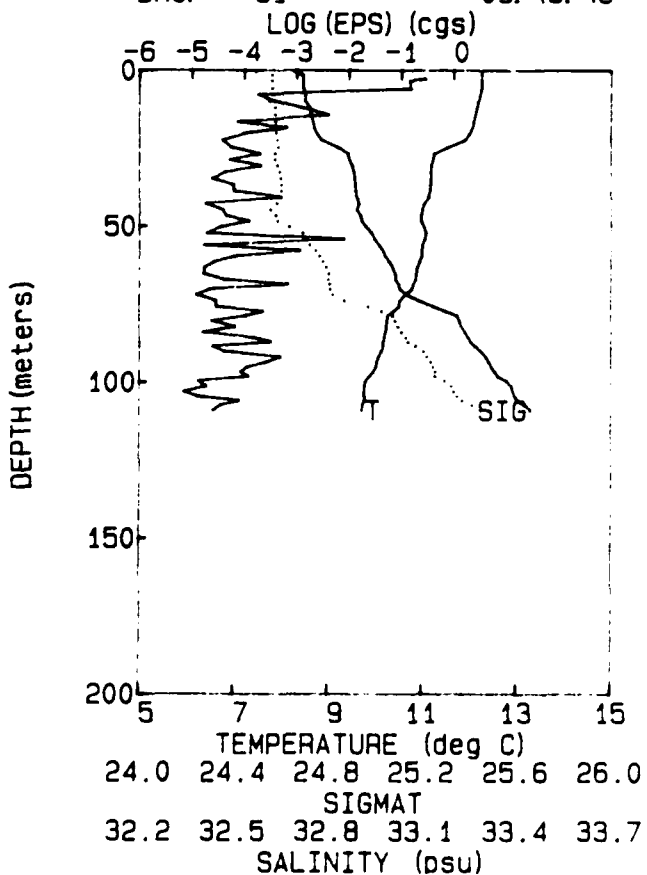
TAPE 141 05-31-87
DROP 29 06:26:58



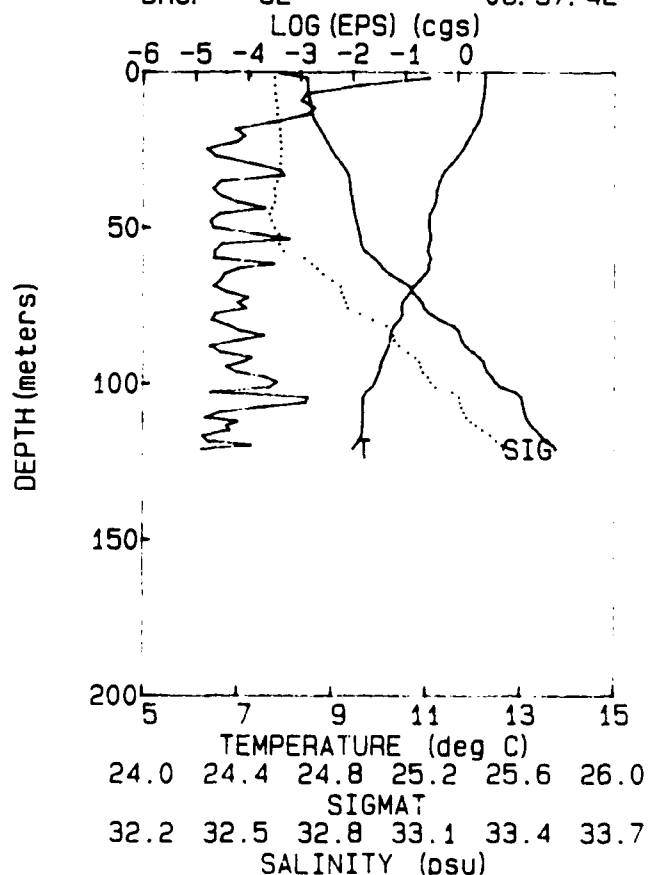
TAPE 141 05-31-87
DROP 30 06:37:48



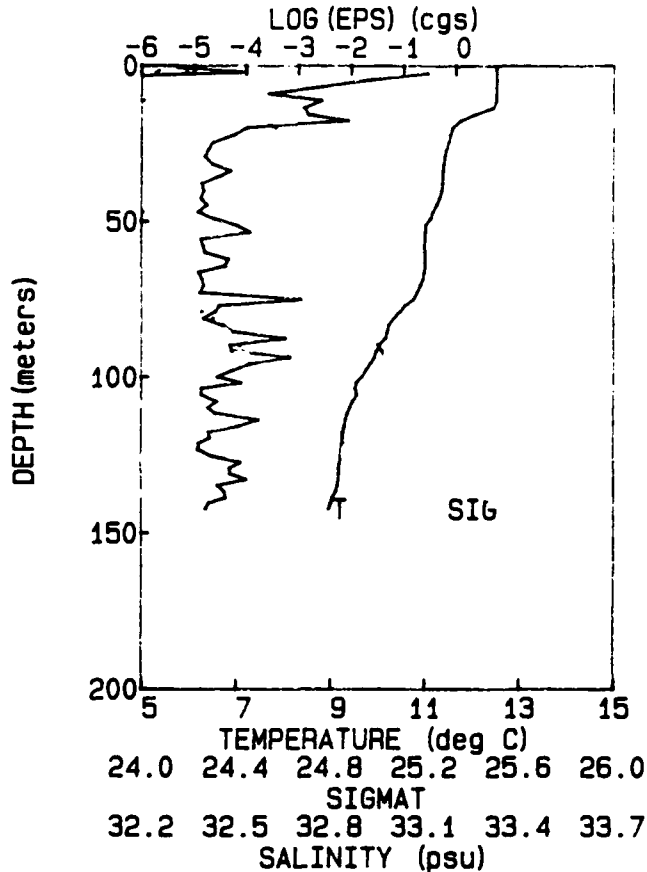
TAPE 141 05-31-87
DROP 31 06:49:49



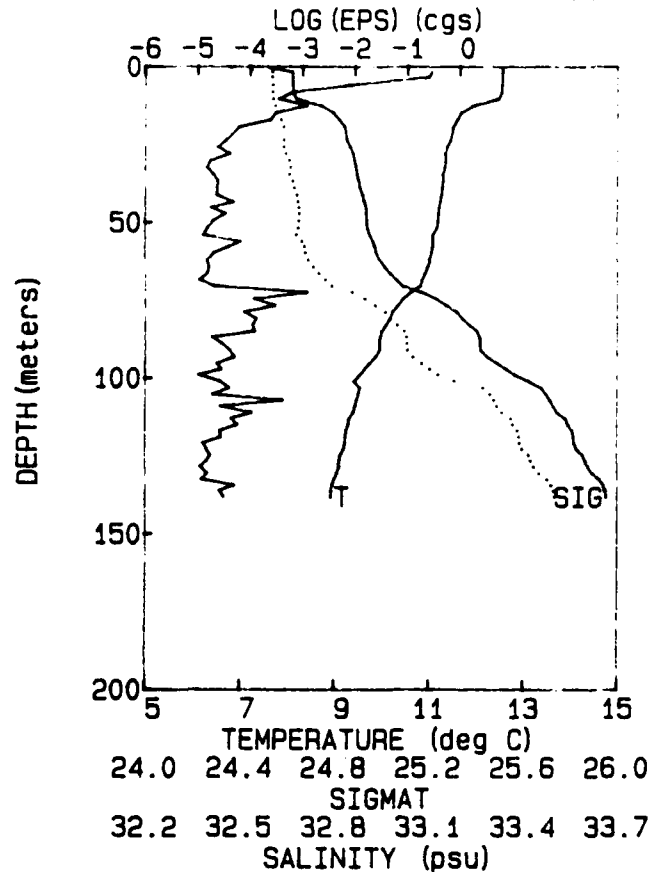
TAPE 141 05-31-87
DROP 32 06:57:42



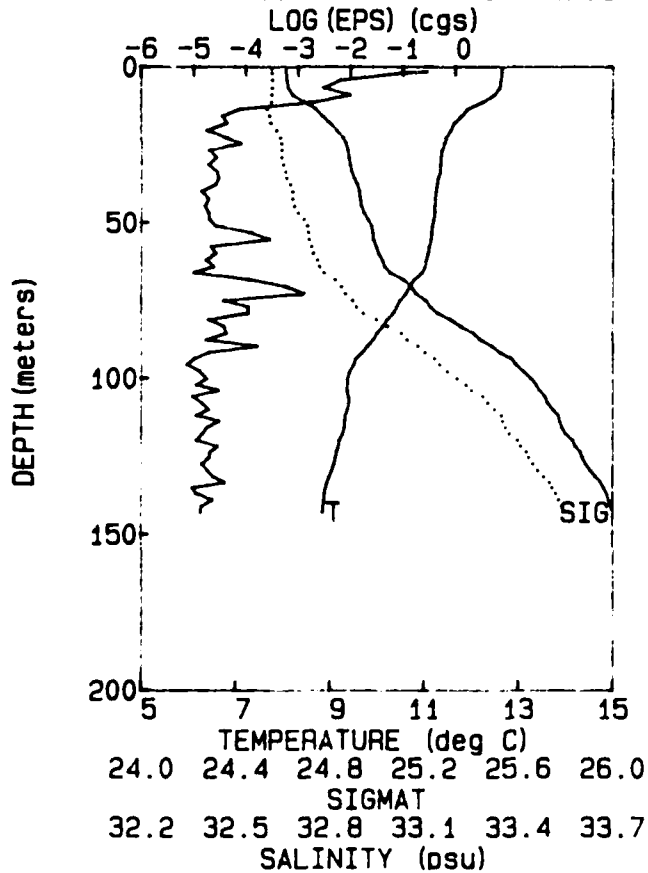
TAPE 141 05-31-87
DROP 37 07: 36: 43



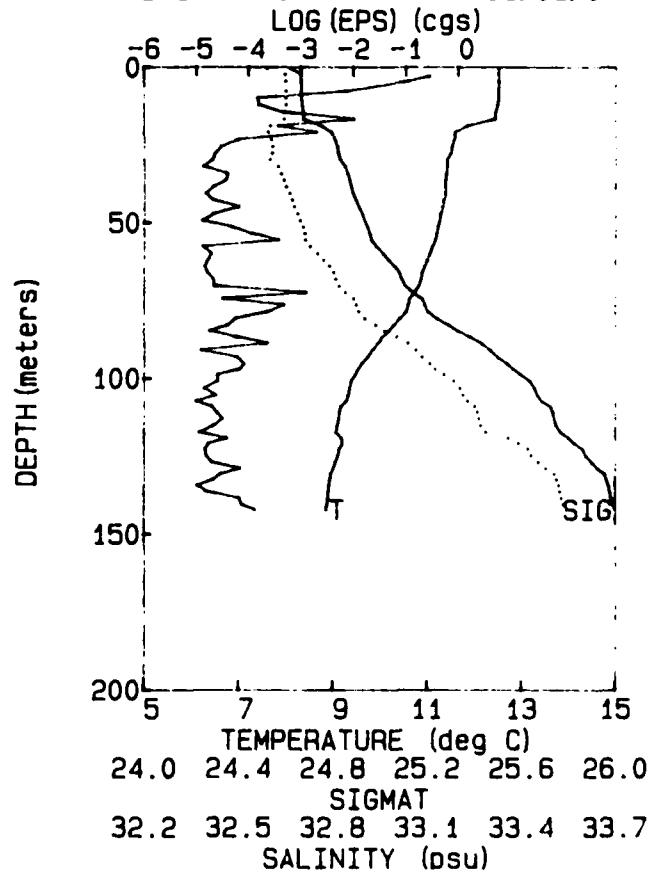
TAPE 141 05-31-87
DROP 38 07: 44: 55

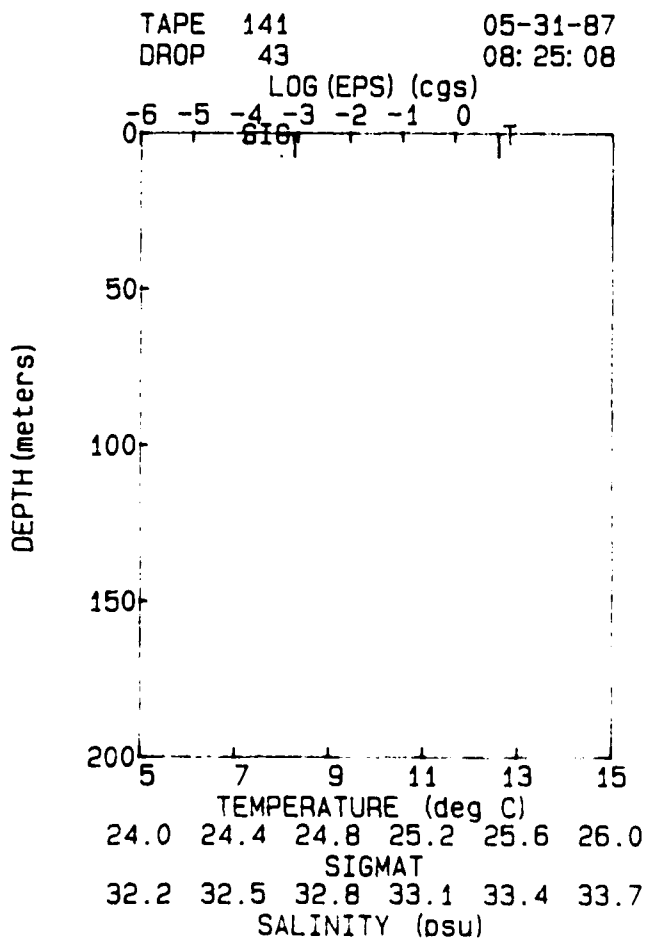
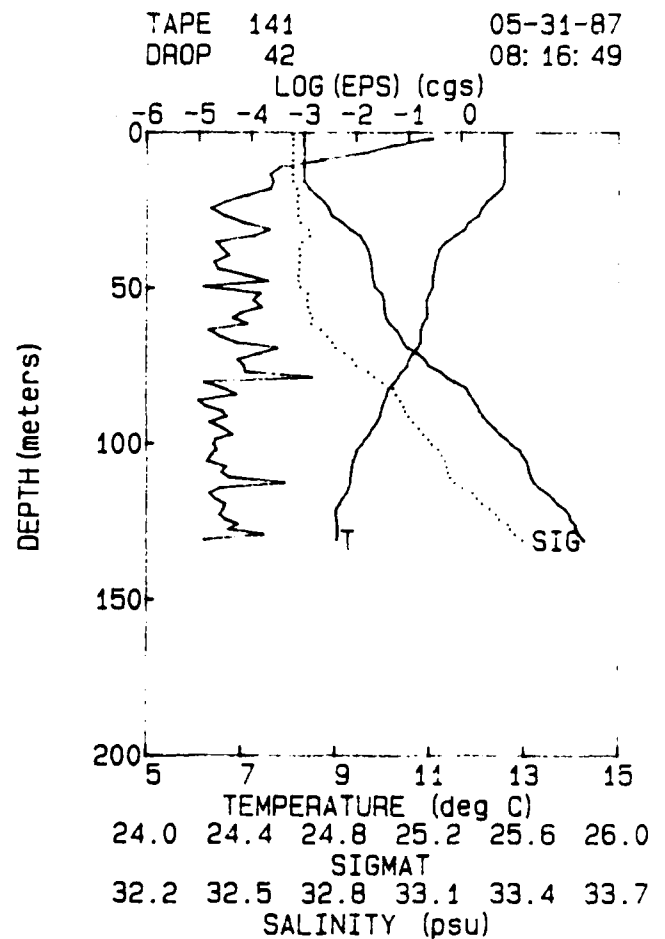
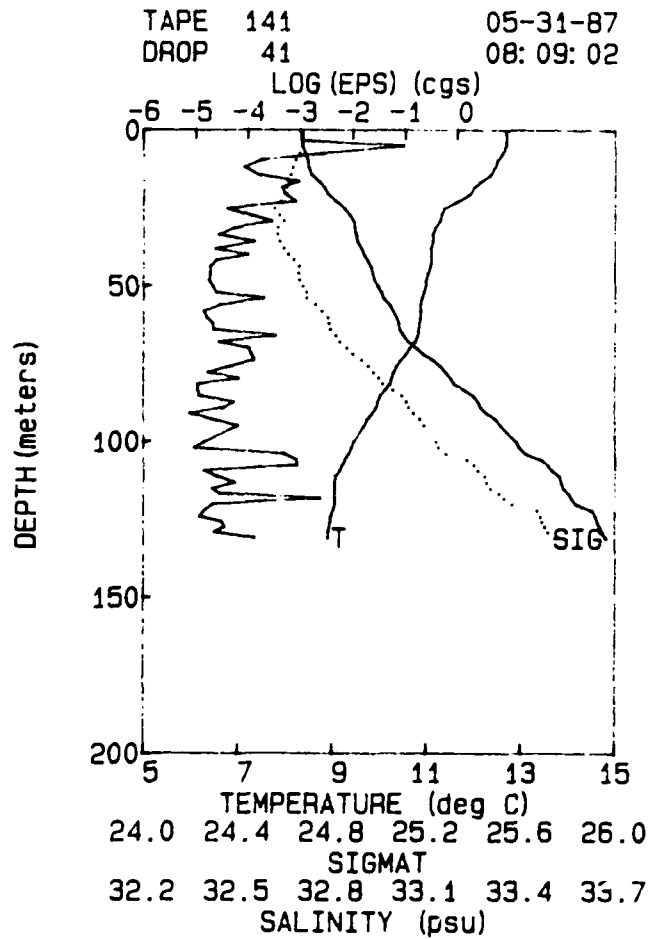


TAPE 141 05-31-87
DROP 39 07: 53: 01



TAPE 141 05-31-87
DROP 40 08: 01: 04





DEPTH (meters)

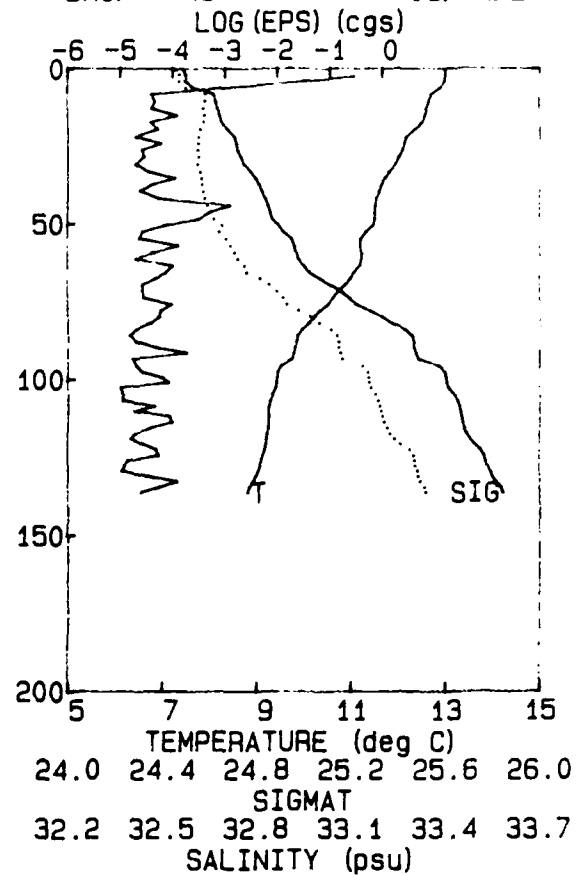
DEPTH (meters)

DEPTH (meters)

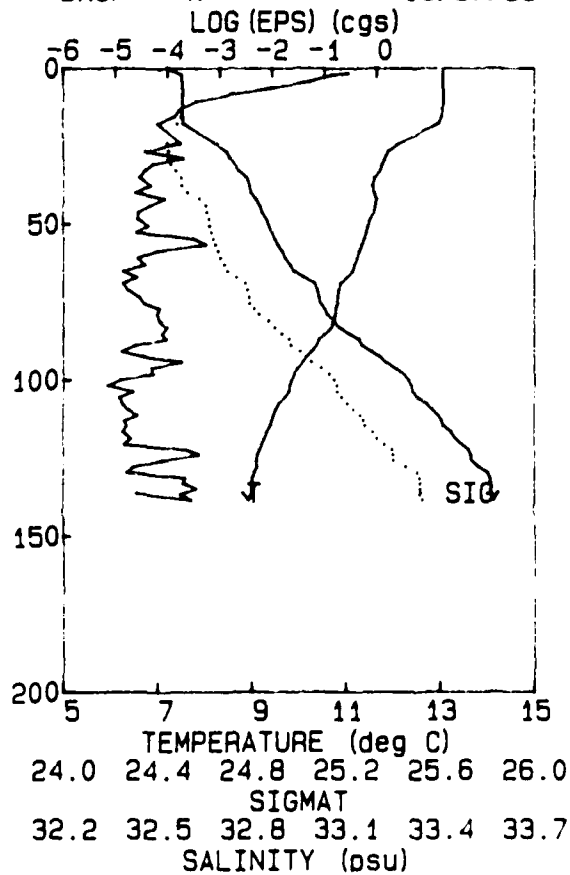
DEPTH (meters)

DEPTH (meters)

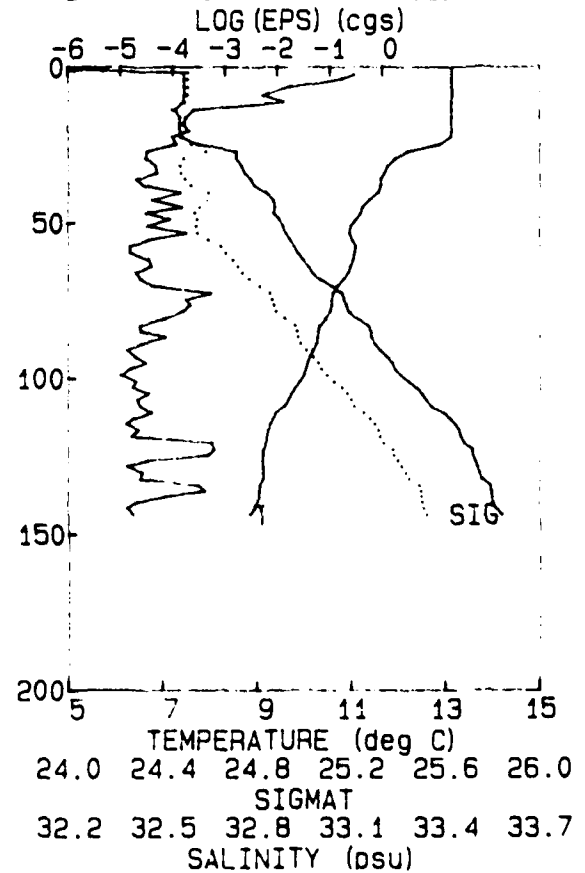
TAPE 141 05-31-87
 DROP 46 08:42:20

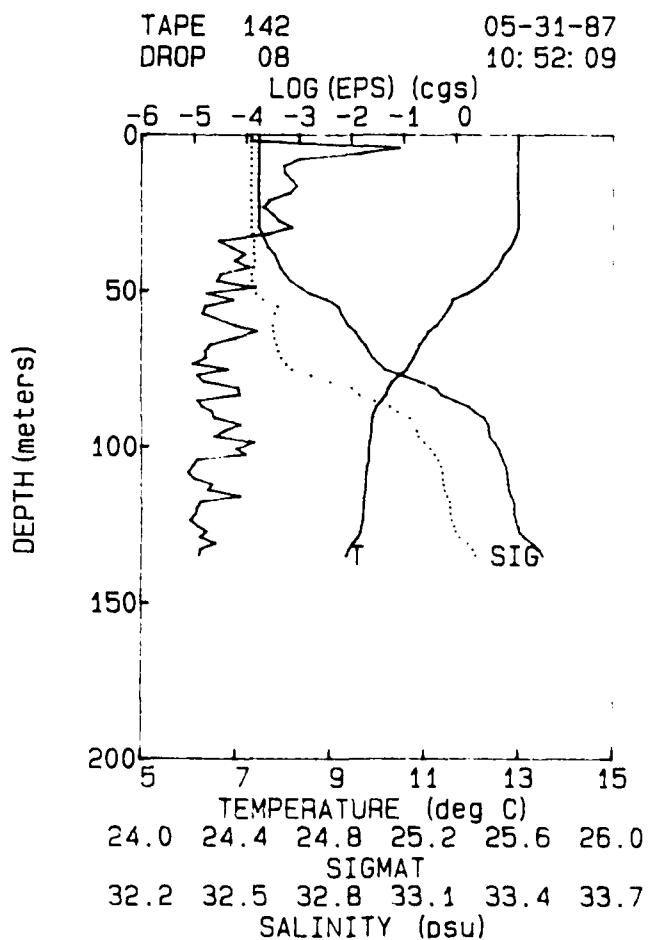
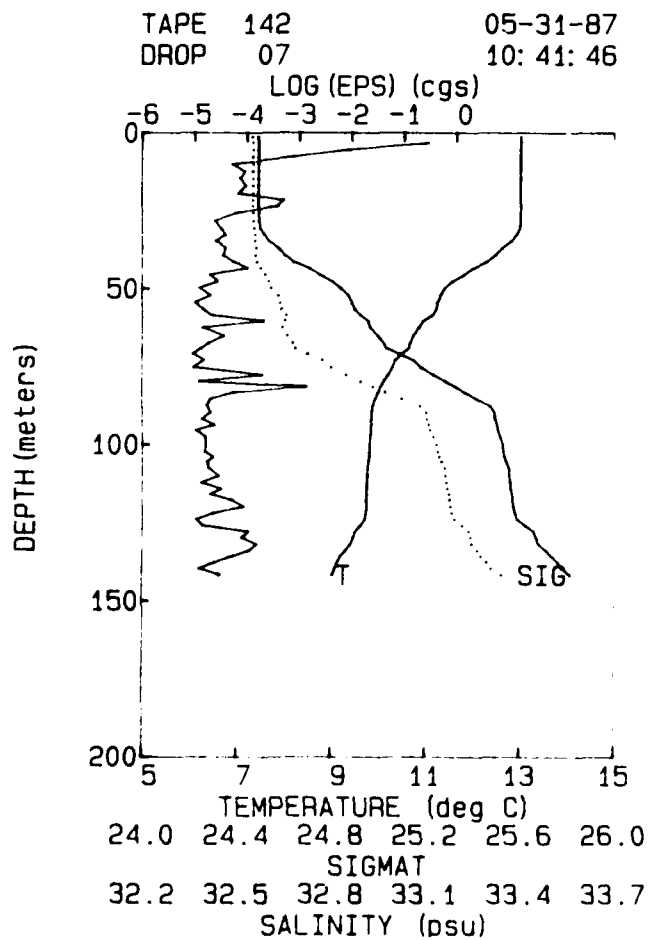
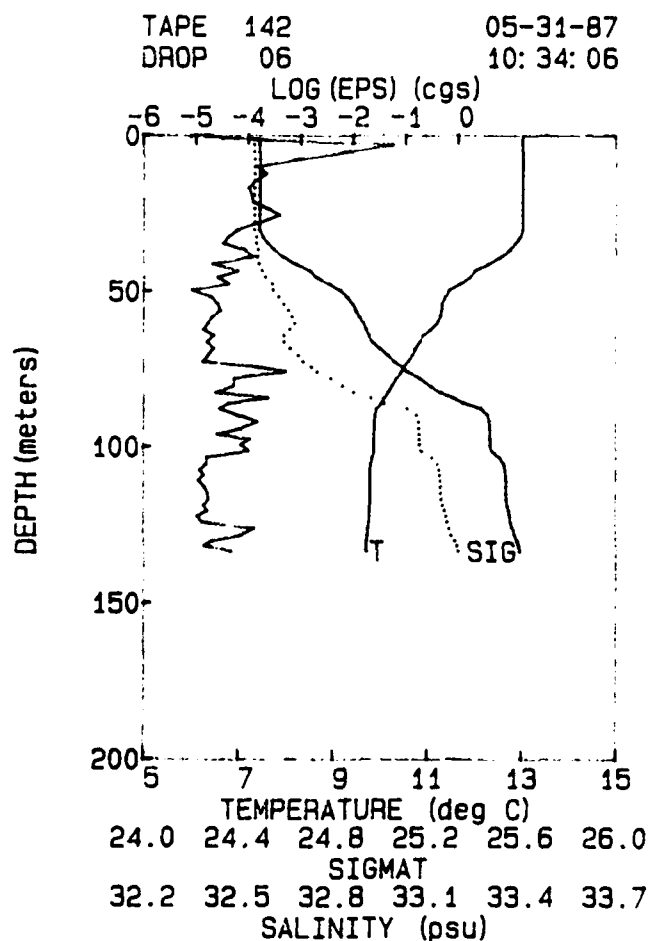
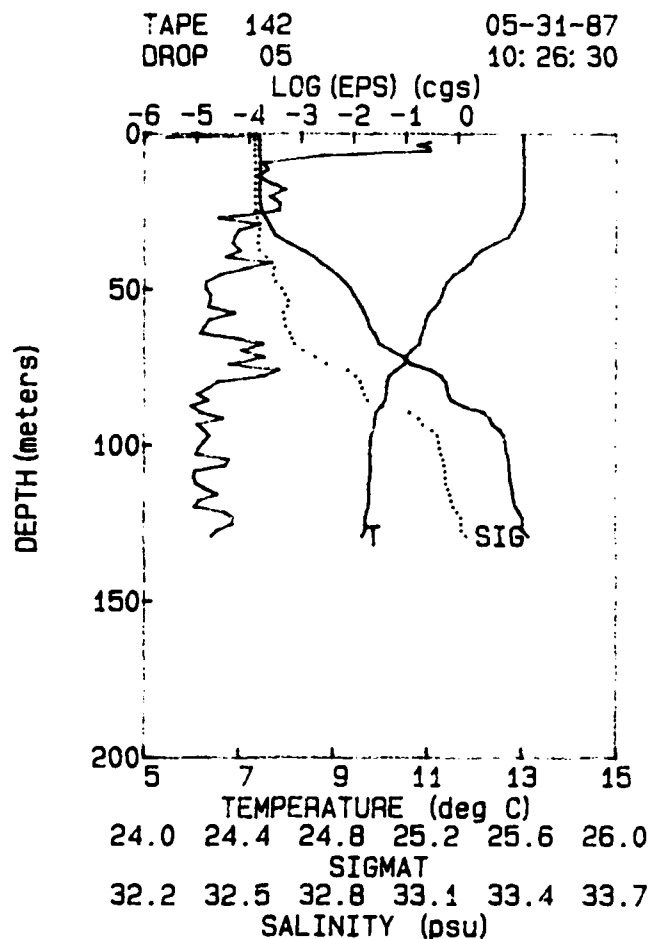


TAPE 141 05-31-87
 DROP 47 08:57:53

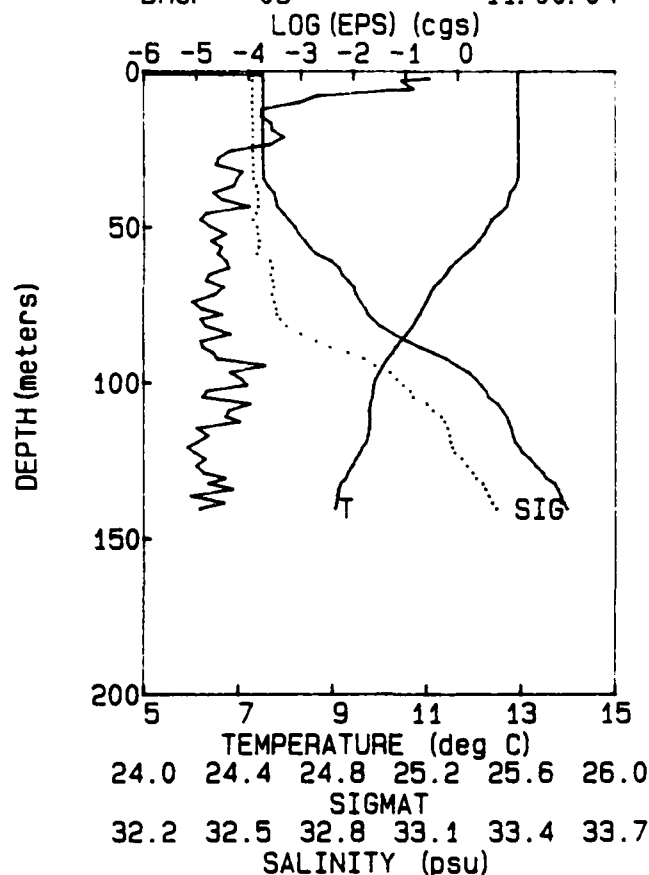


TAPE 141 05-31-87
 DROP 48 09:06:10

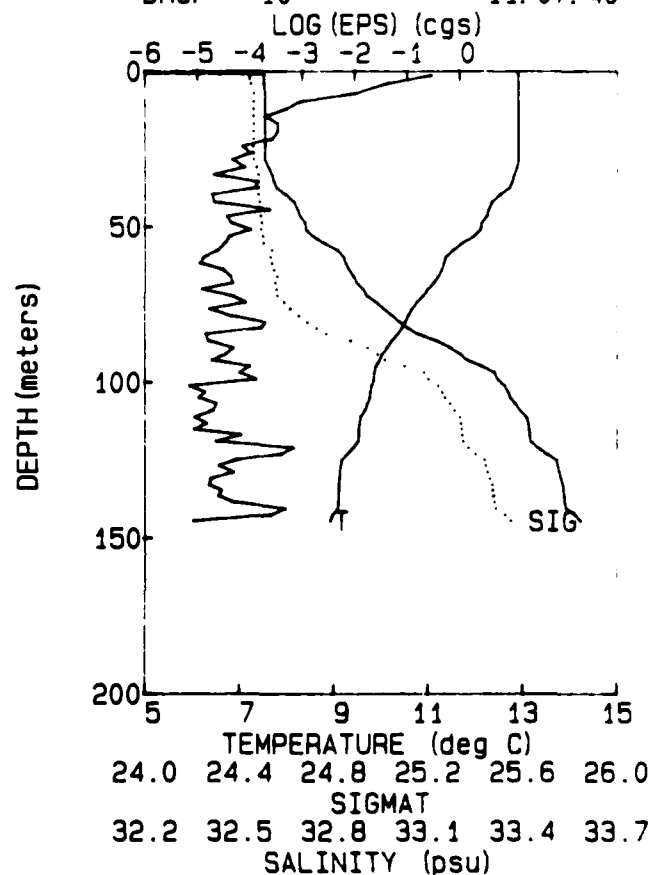




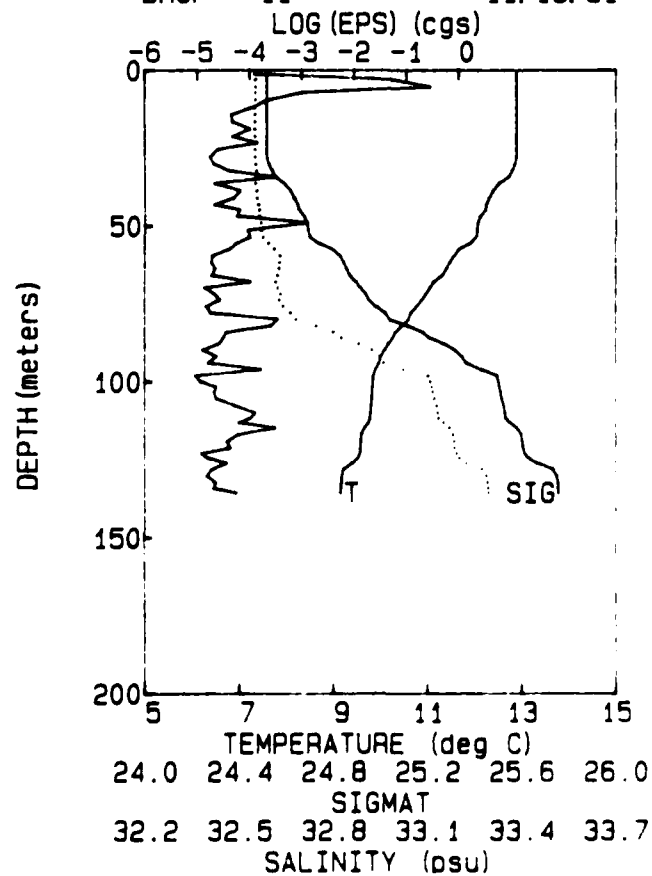
TAPE 142 05-31-87
DROP 09 11:00:04



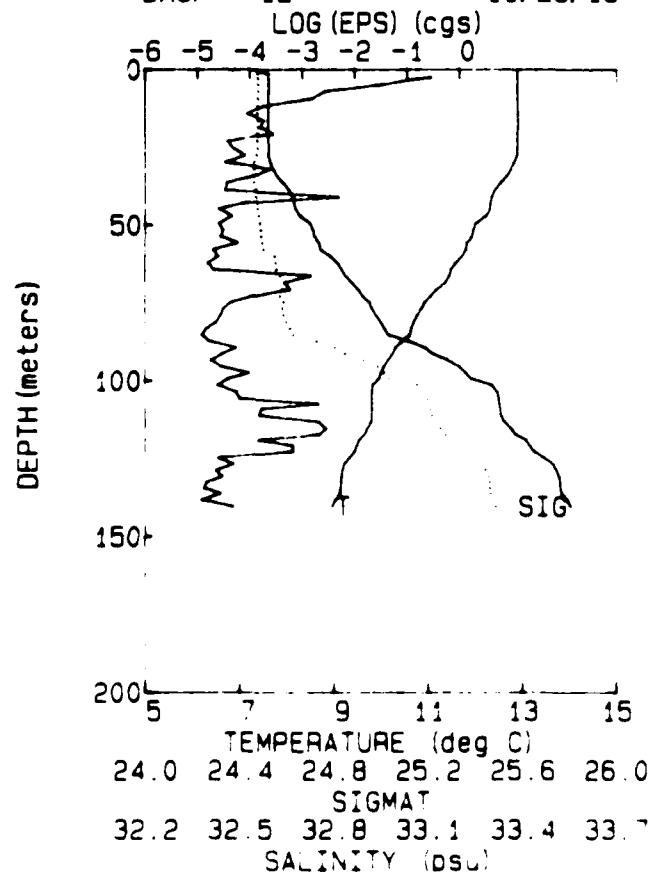
TAPE 142 05-31-87
DROP 10 11:07:40

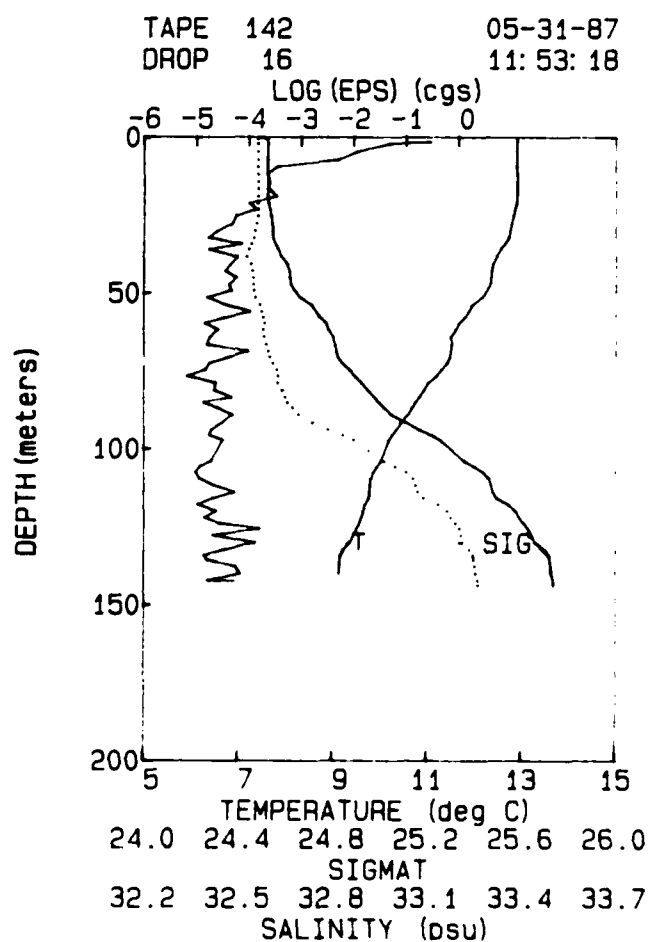
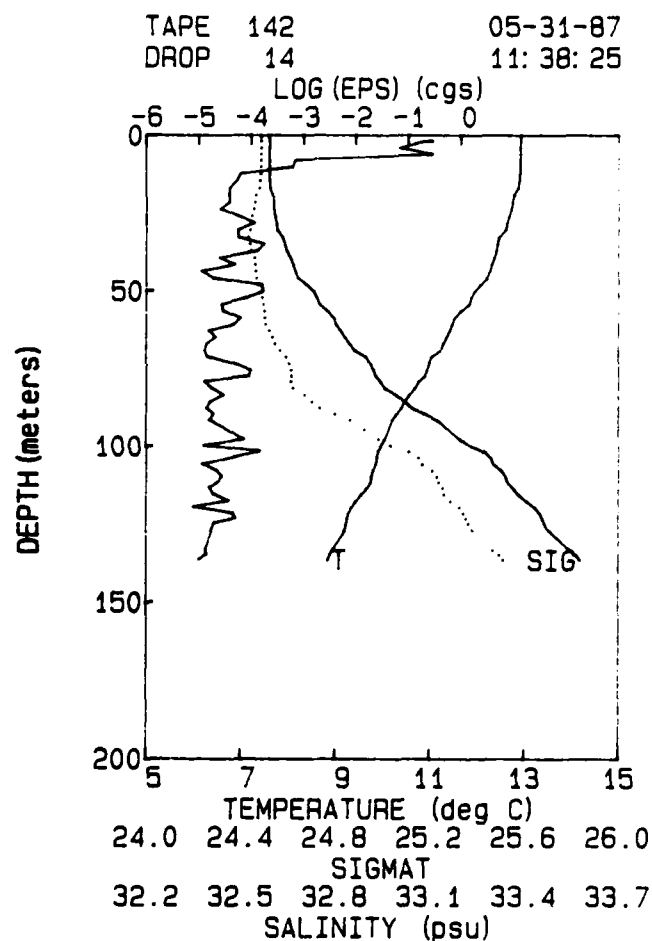
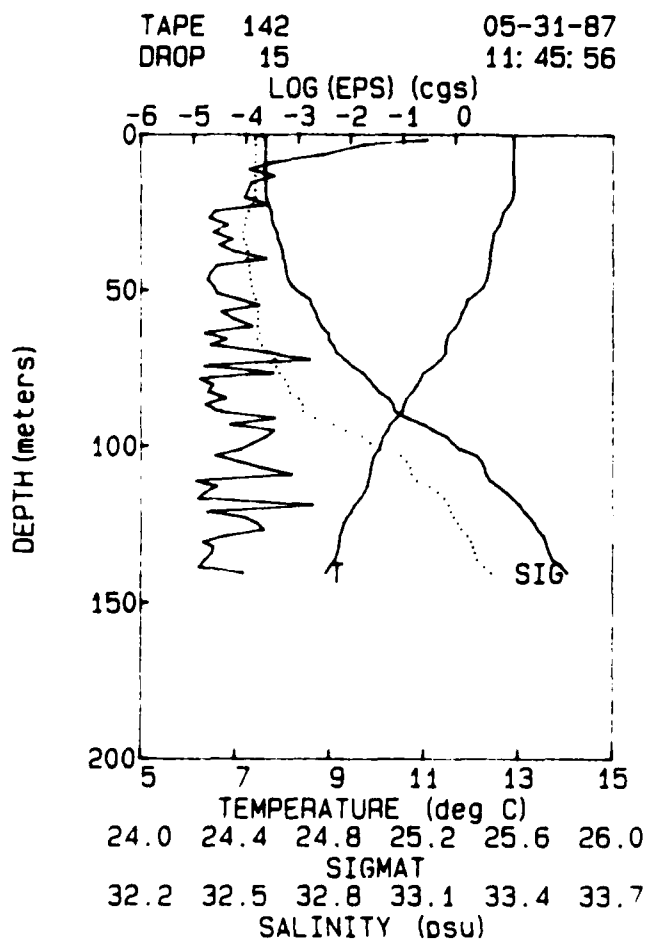
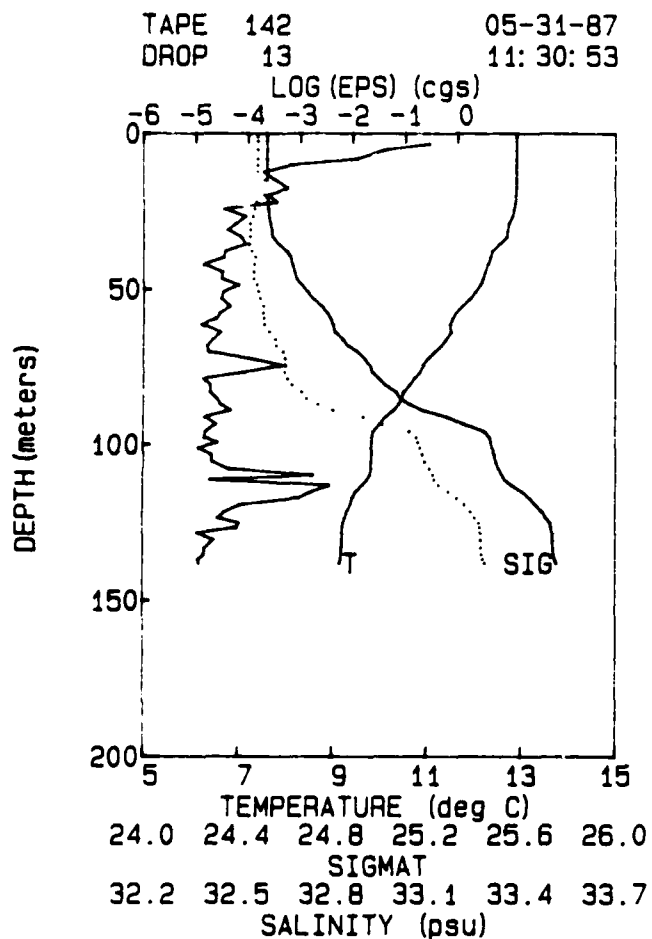


TAPE 142 05-31-87
DROP 11 11:15:31

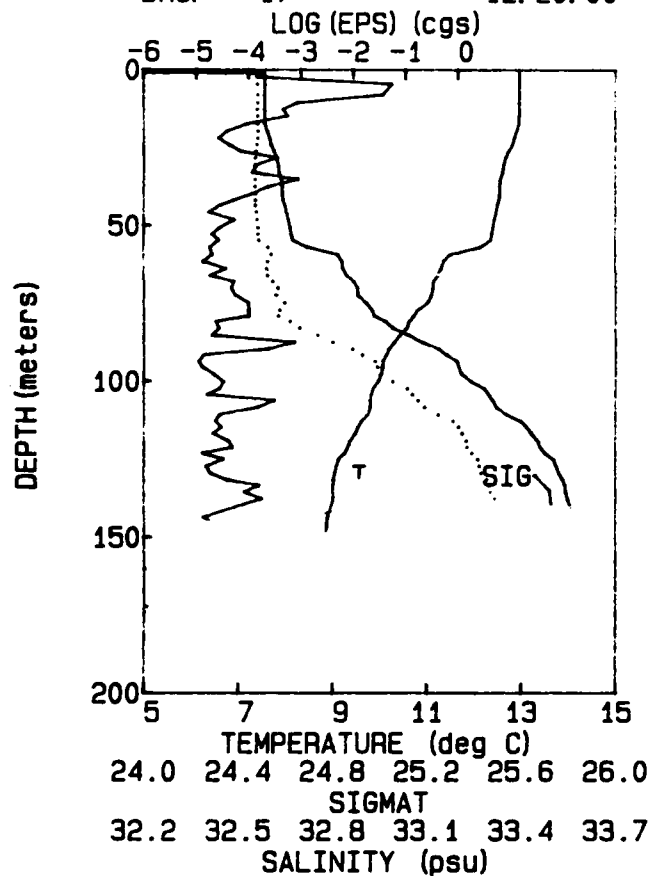


TAPE 142 05-31-87
DROP 12 11:23:18

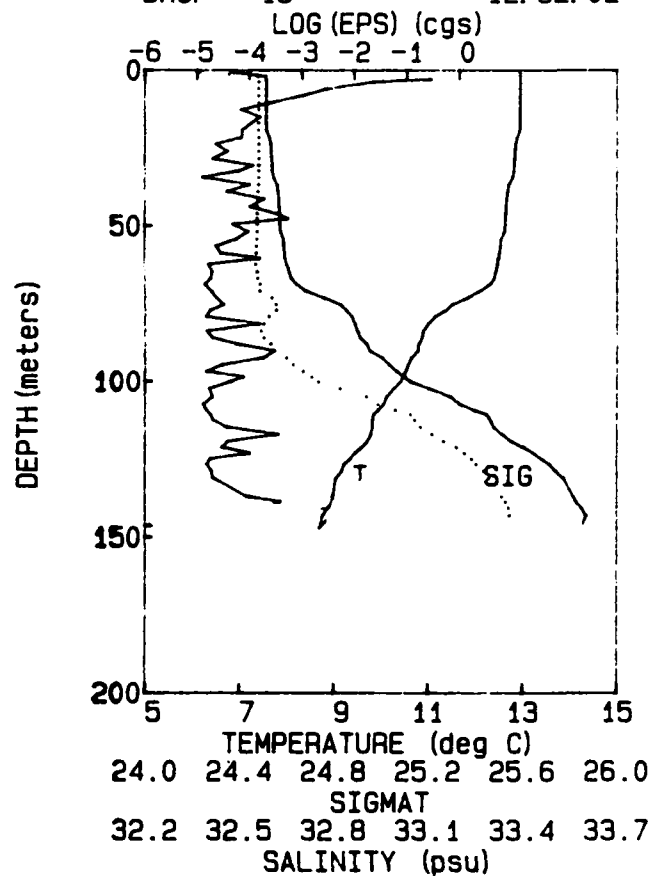




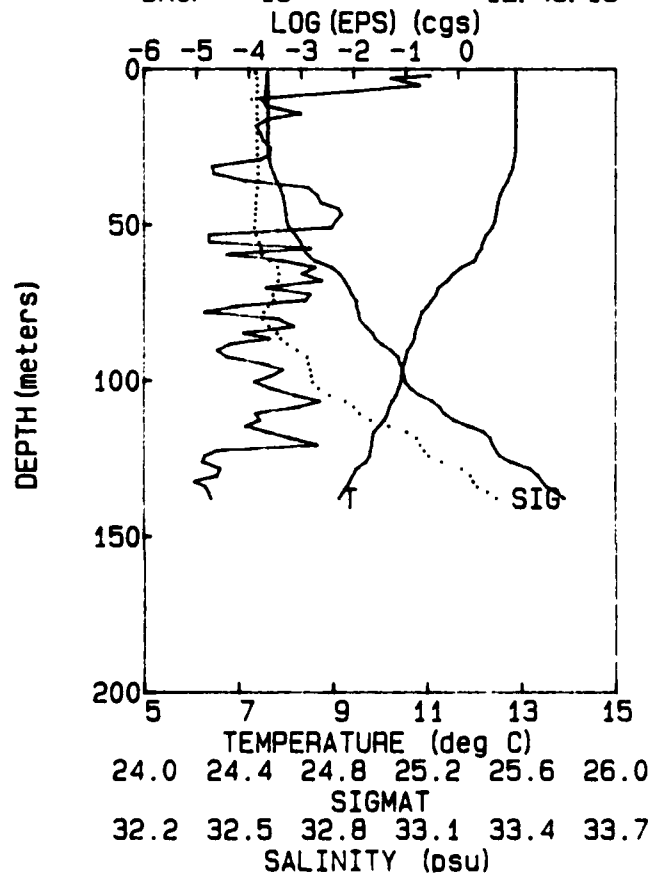
TAPE 142 05-31-87
DROP 17 12: 20: 00



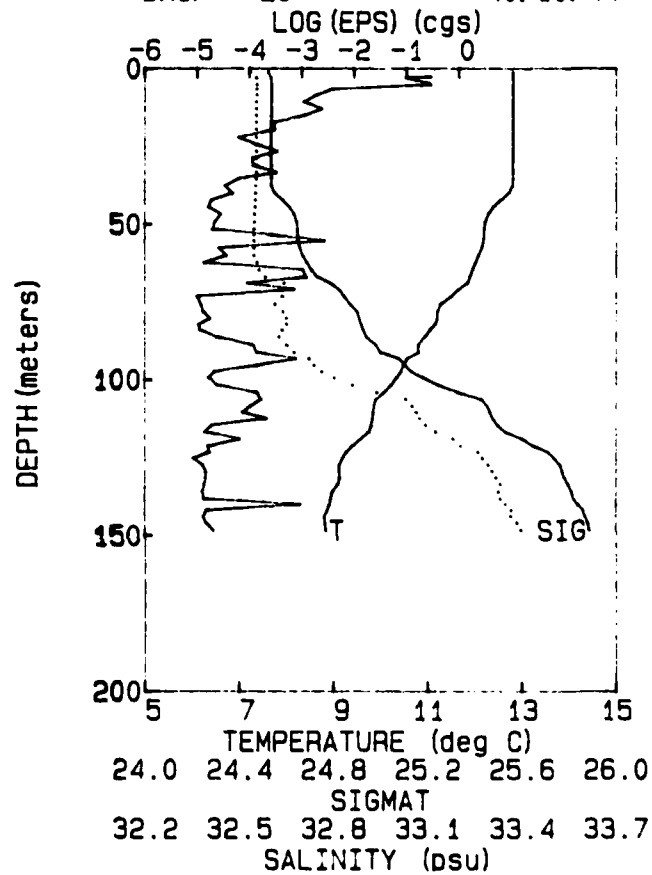
TAPE 142 05-31-87
DROP 18 12: 32: 02



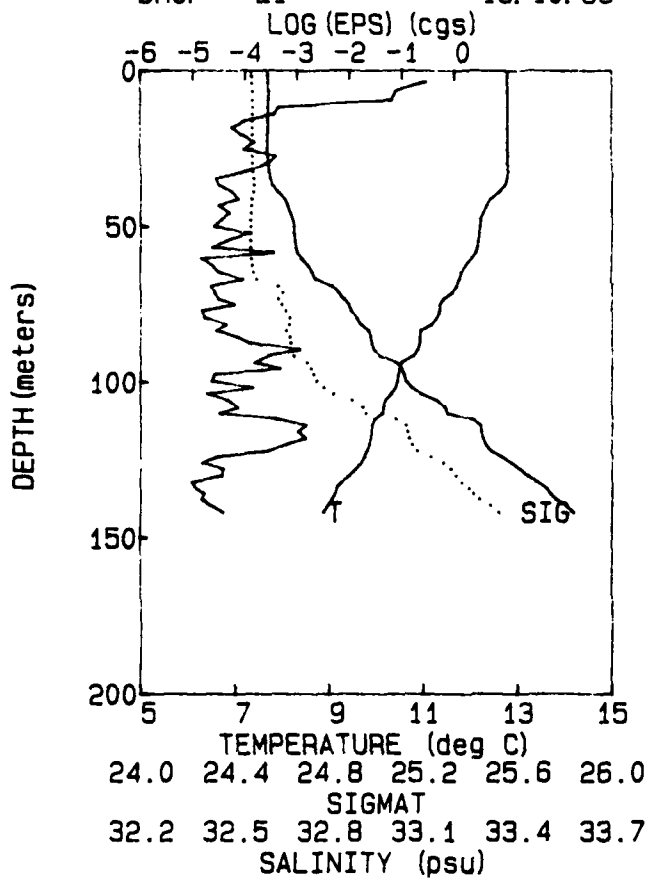
TAPE 142 05-31-87
DROP 19 12: 49: 15



TAPE 142 08-07-35
DROP 20 40: 10: 44

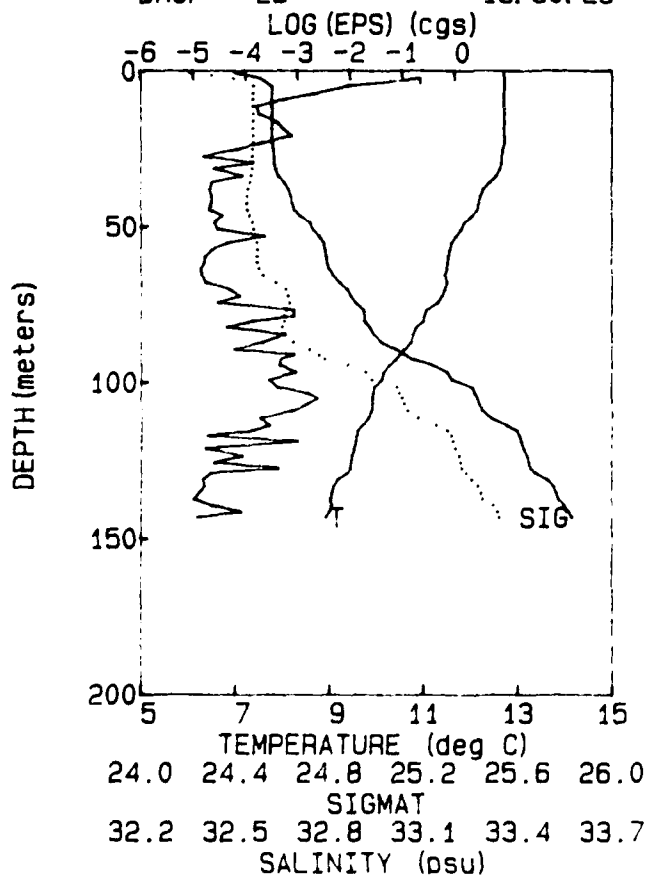


TAPE 142 05-31-87
 DROP 21 13:10:55



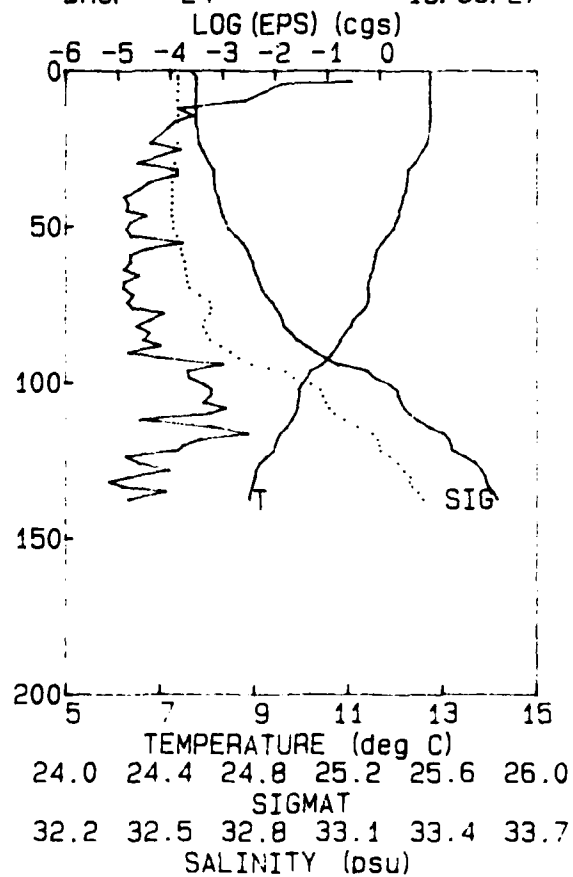
DEPTH (meters)

TAPE 142 05-31-87
 DROP 23 13:30:29

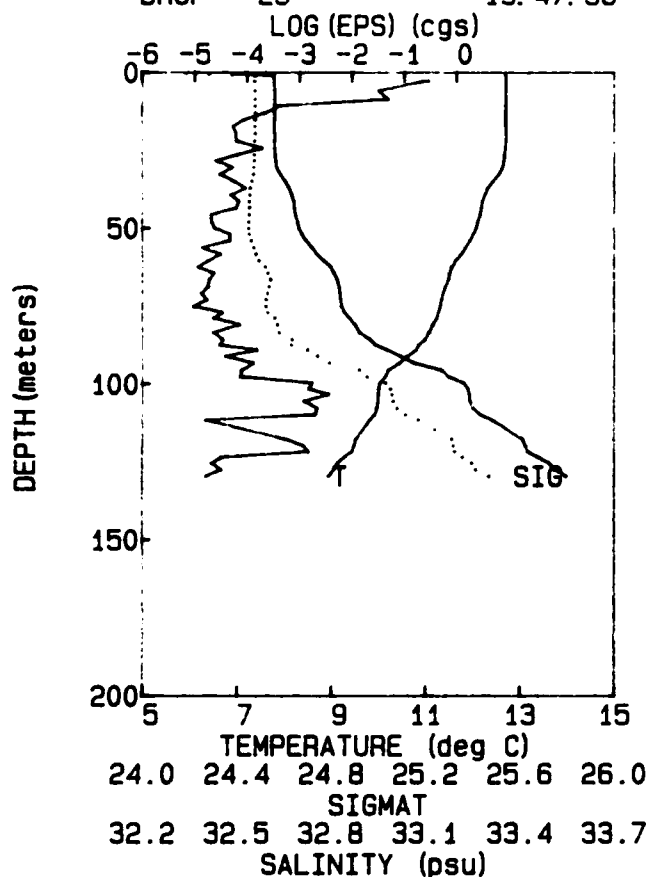


TAPE 142 05-31-87
 DROP 24 13:39:27

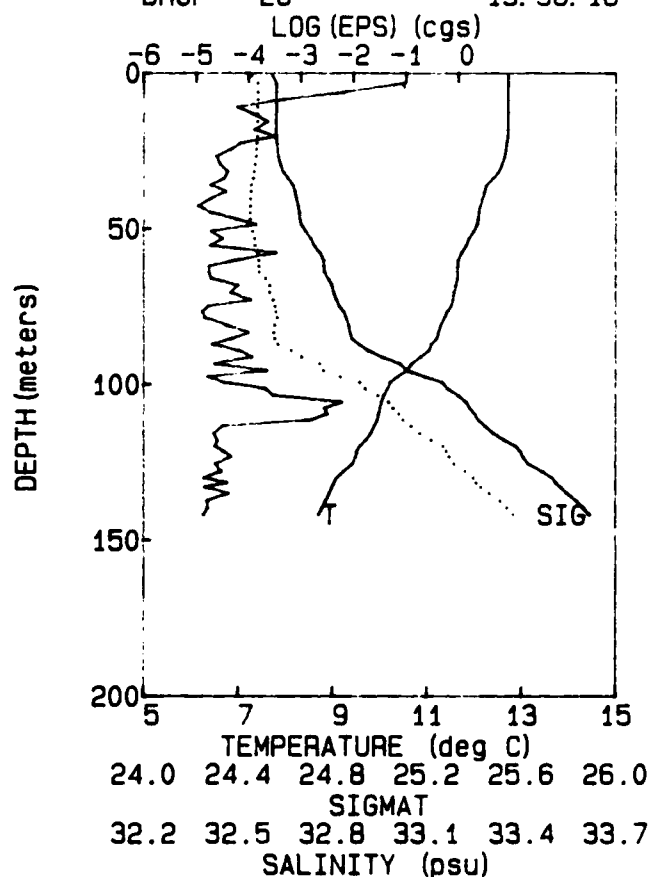
DEPTH (meters)



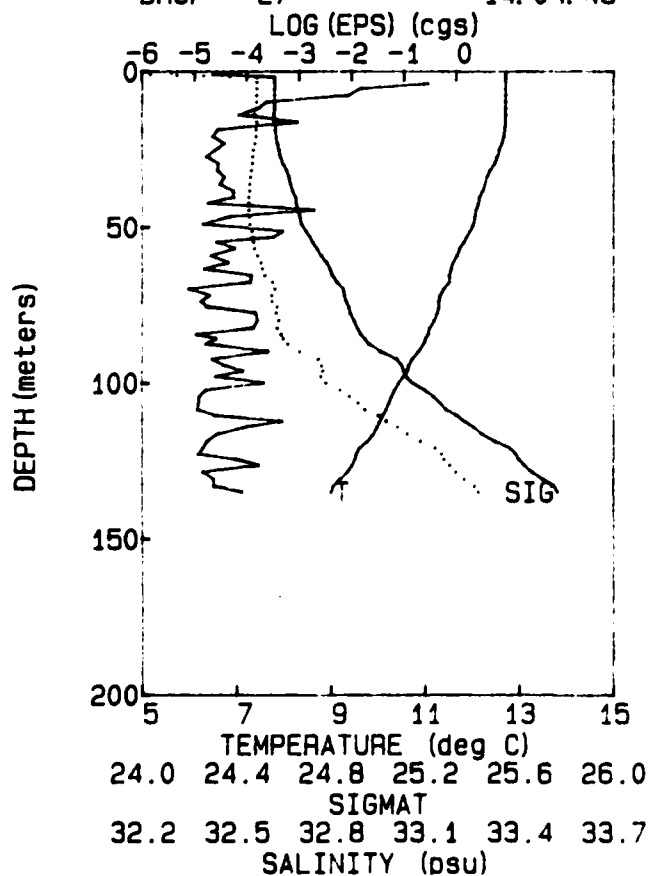
TAPE 142 05-31-87
DROP 25 13:47:56



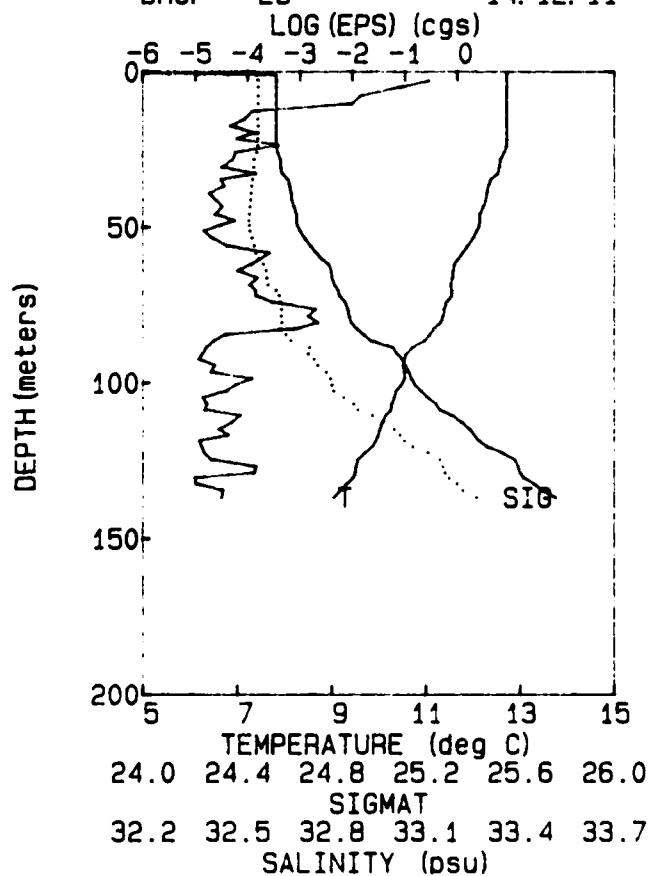
TAPE 142 05-31-87
DROP 26 13:56:18

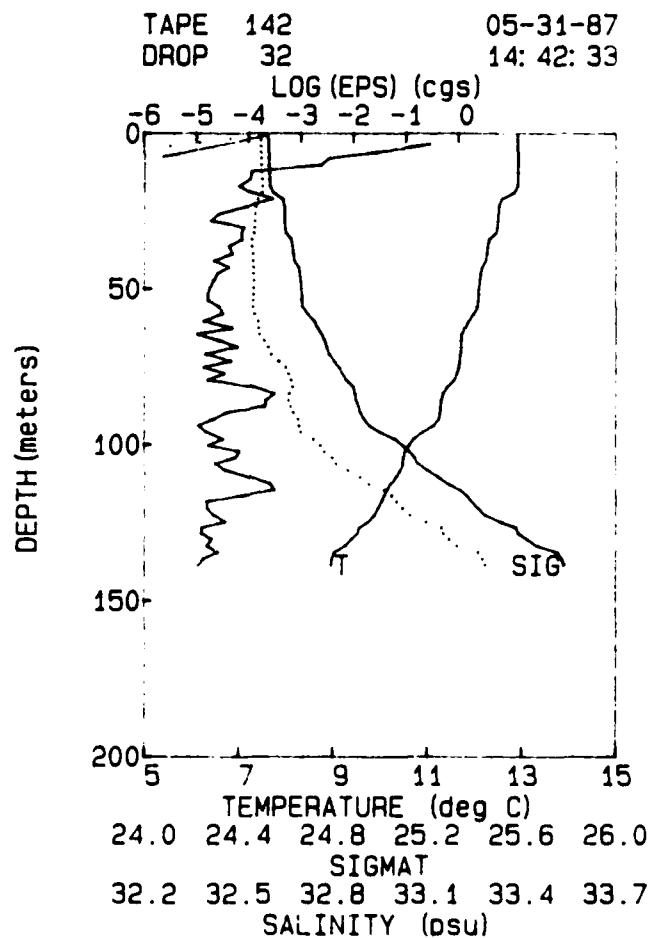
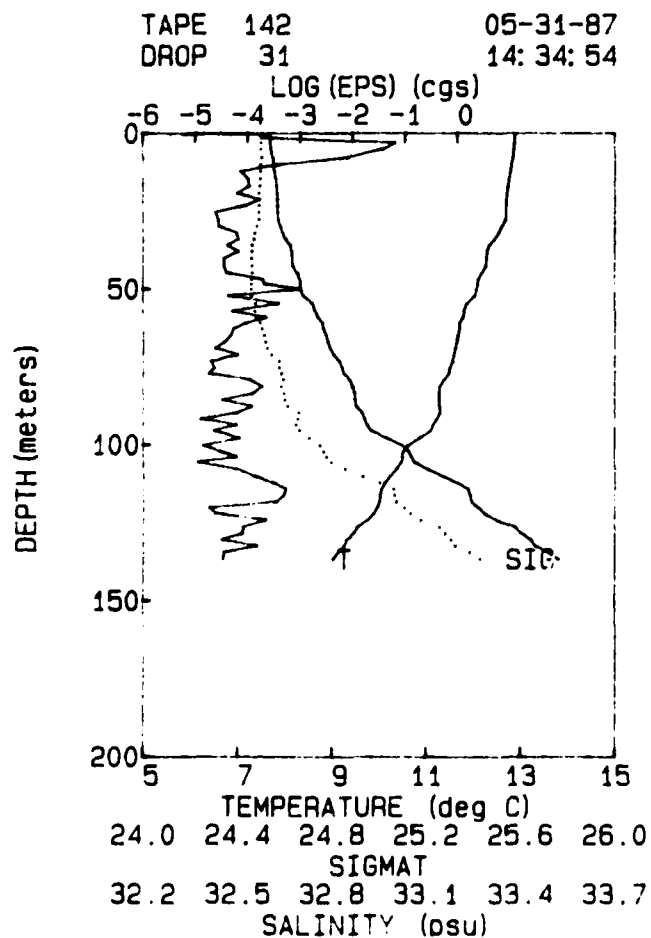
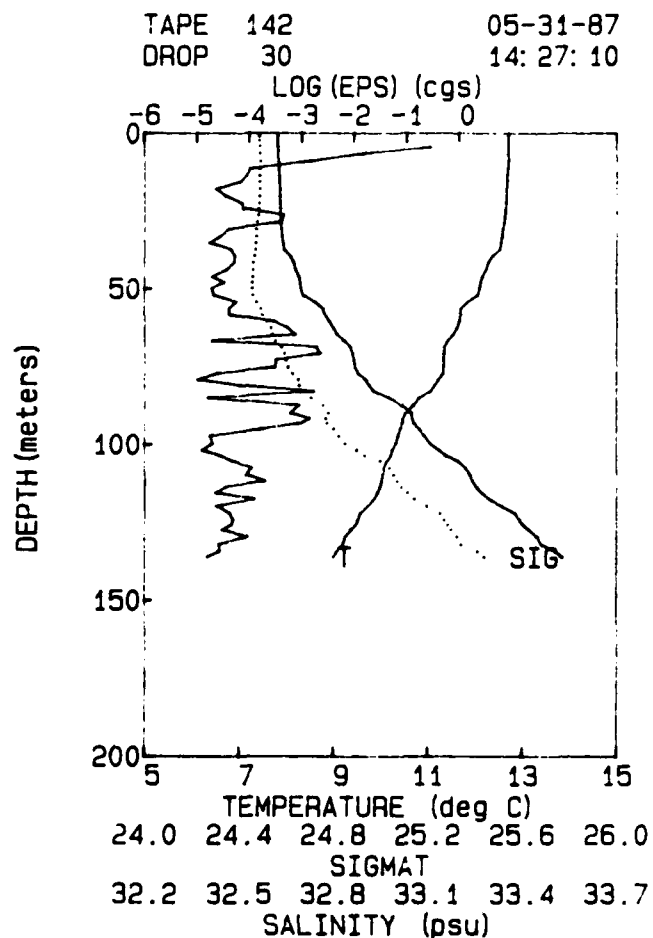
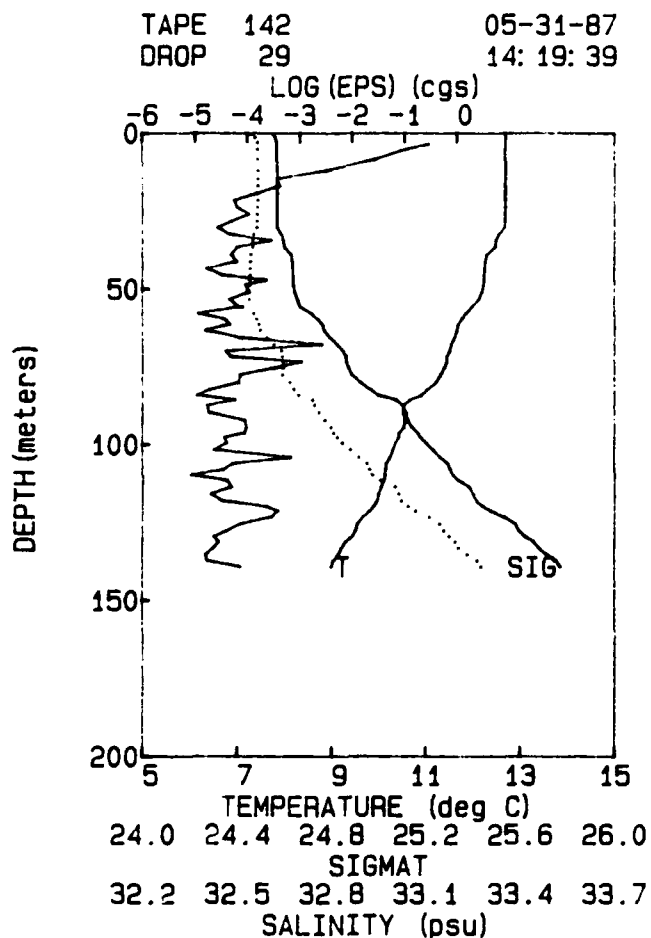


TAPE 142 05-31-87
DROP 27 14:04:43

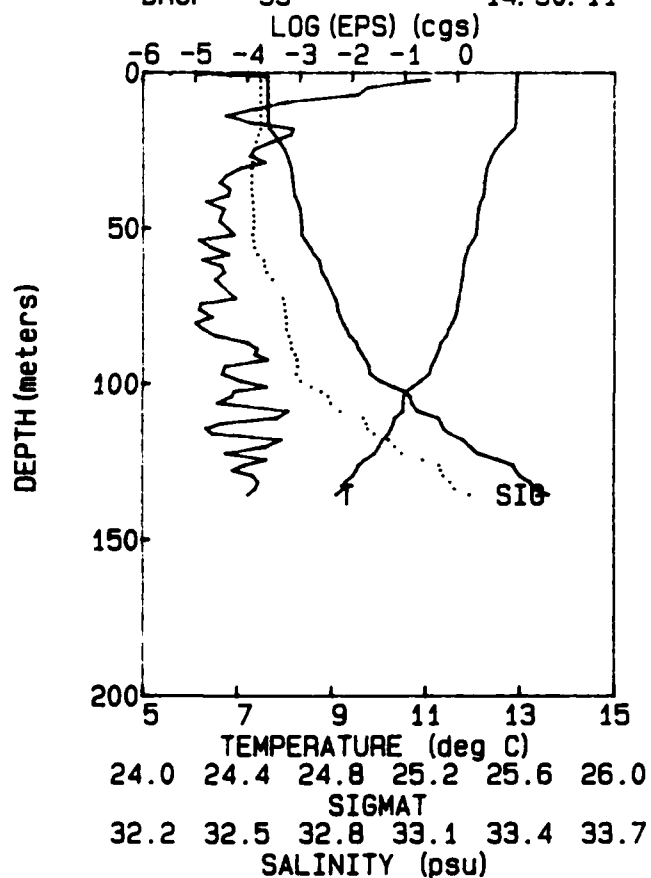


TAPE 142 05-31-87
DROP 28 14:12:11

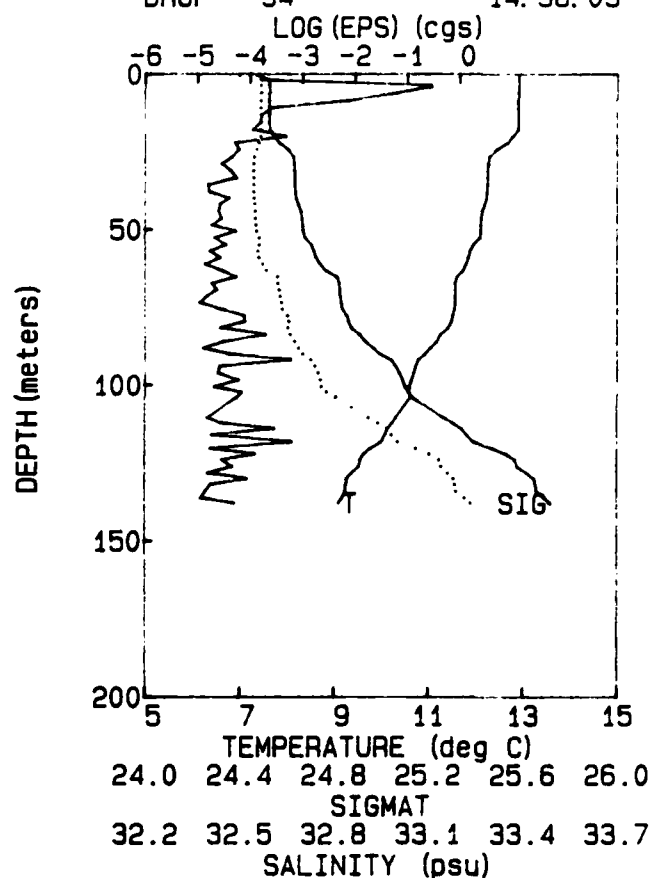




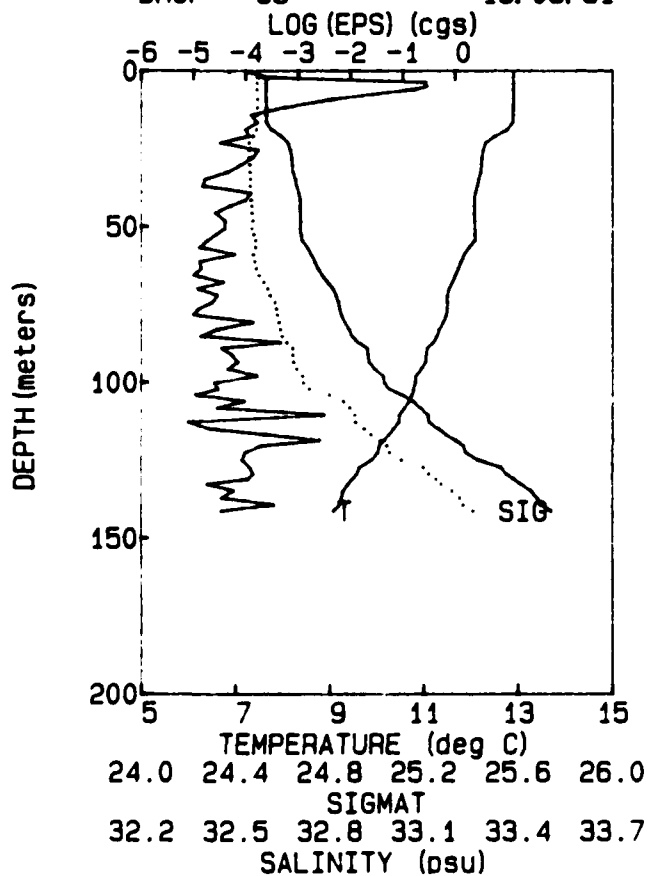
TAPE 142 05-31-87
DROP 33 14:50:11



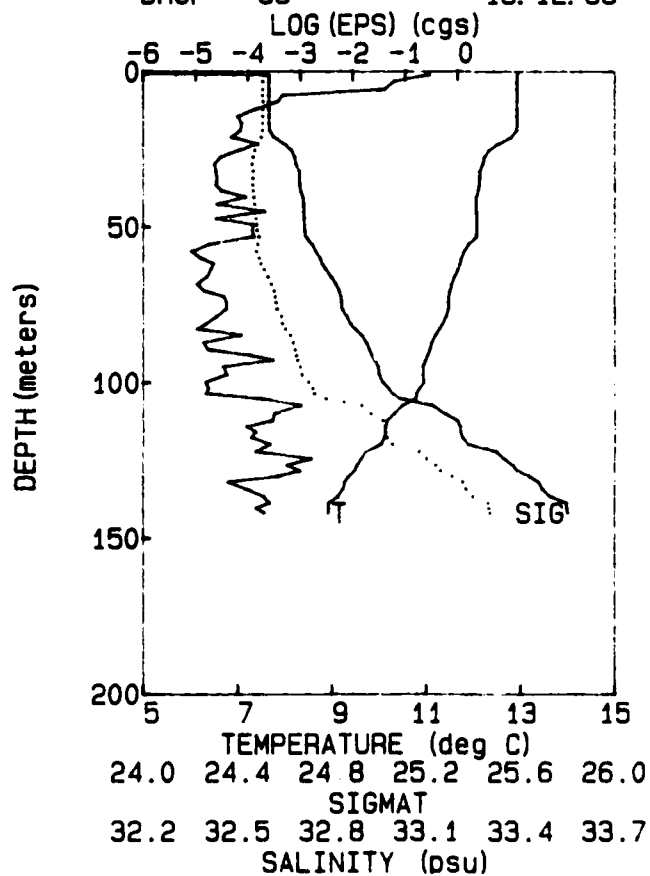
TAPE 142 05-31-87
DROP 34 14:58:03



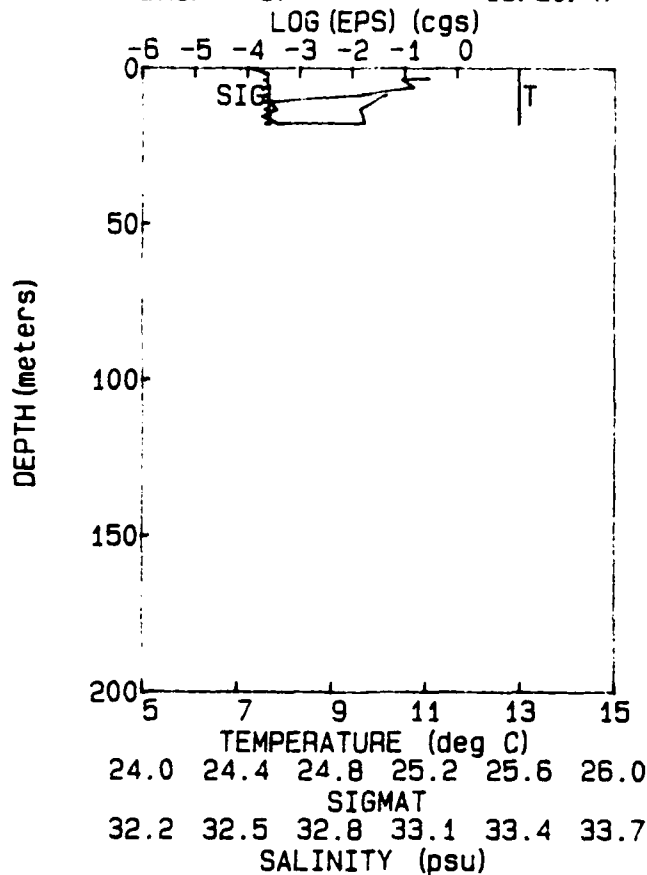
TAPE 142 05-31-87
DROP 35 15:05:31



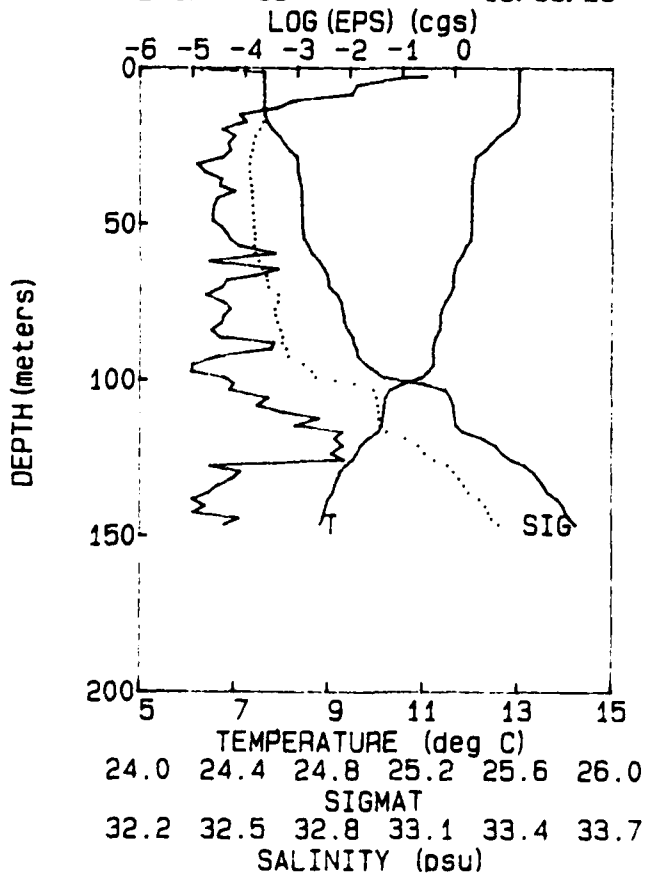
TAPE 142 05-31-87
DROP 36 15:12:58



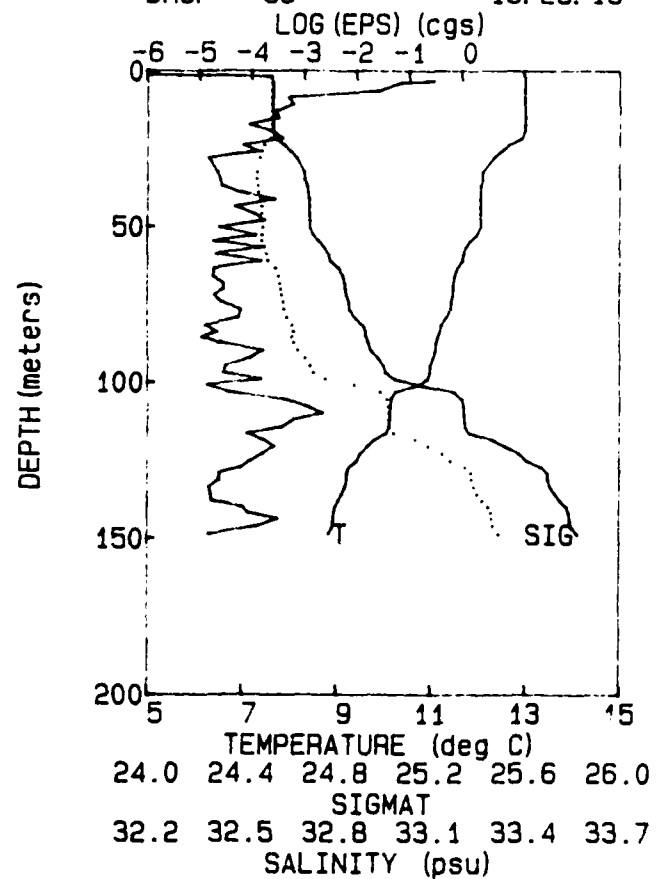
TAPE 142 05-31-87
DROP 37 15: 20: 47



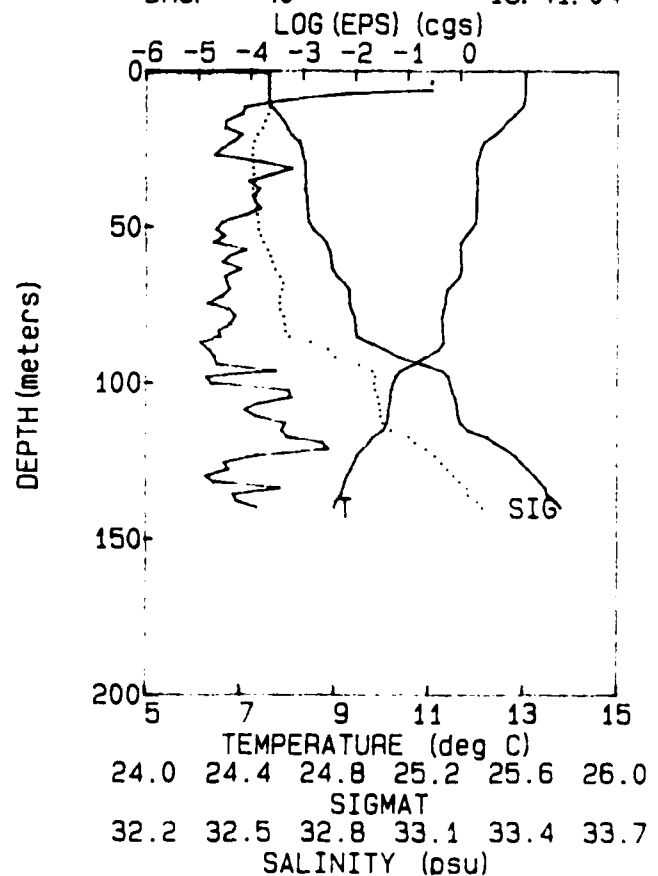
TAPE 142 05-31-87
DROP 39 15: 33: 28



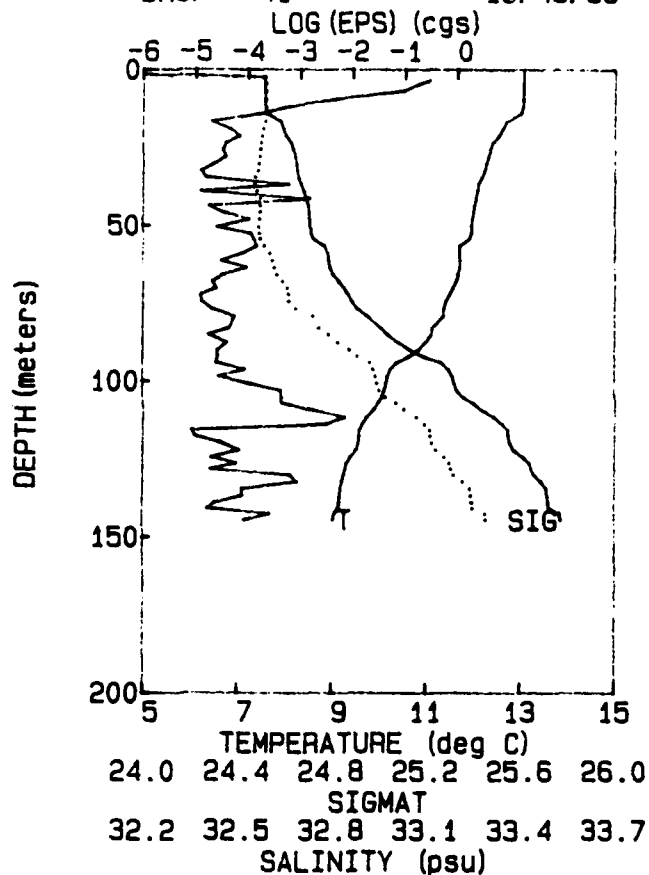
TAPE 142 05-31-87
DROP 38 15: 23: 13



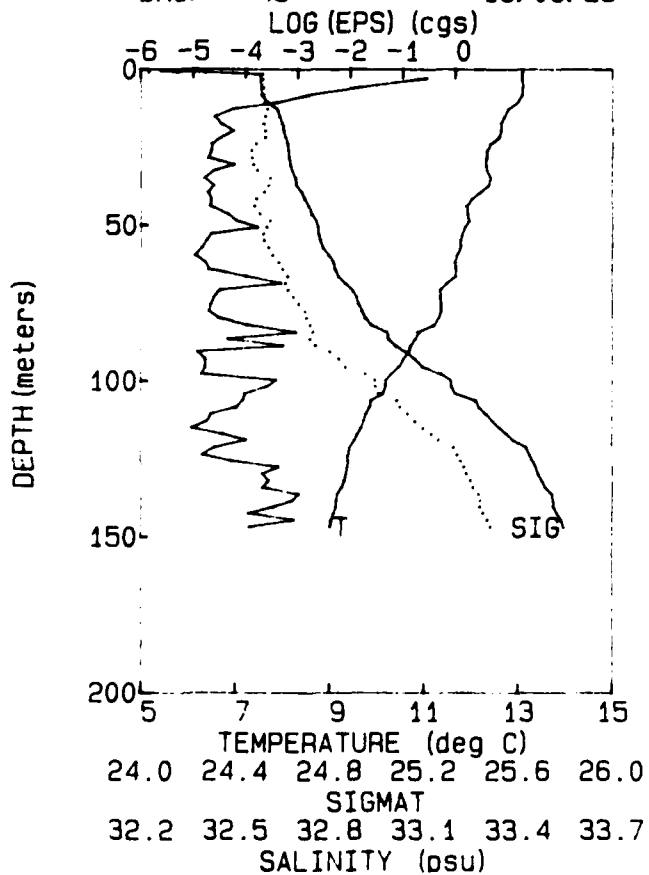
TAPE 142 05-31-87
DROP 40 15: 41: 04



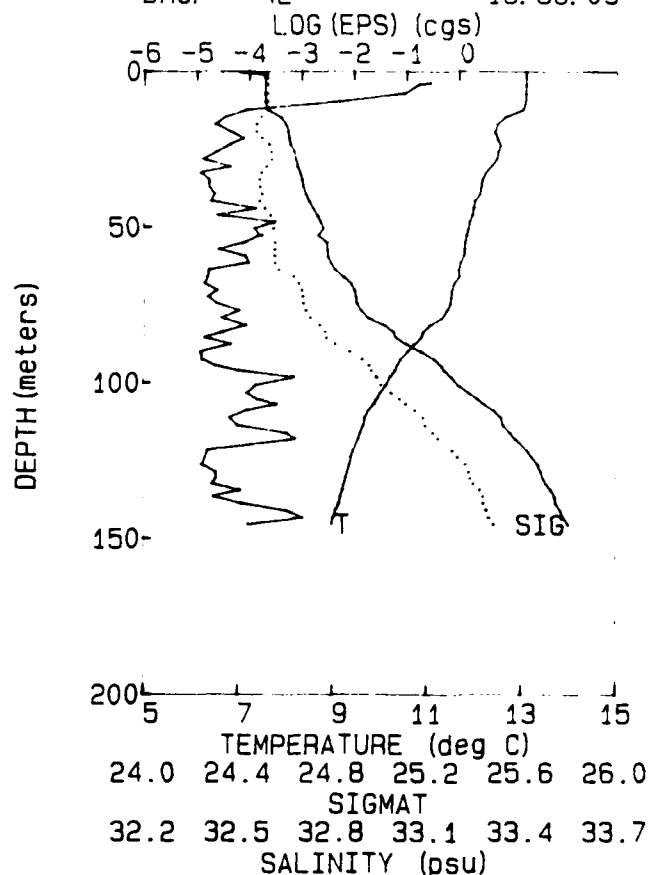
TAPE 142 05-31-87
DROP 41 15:48:36



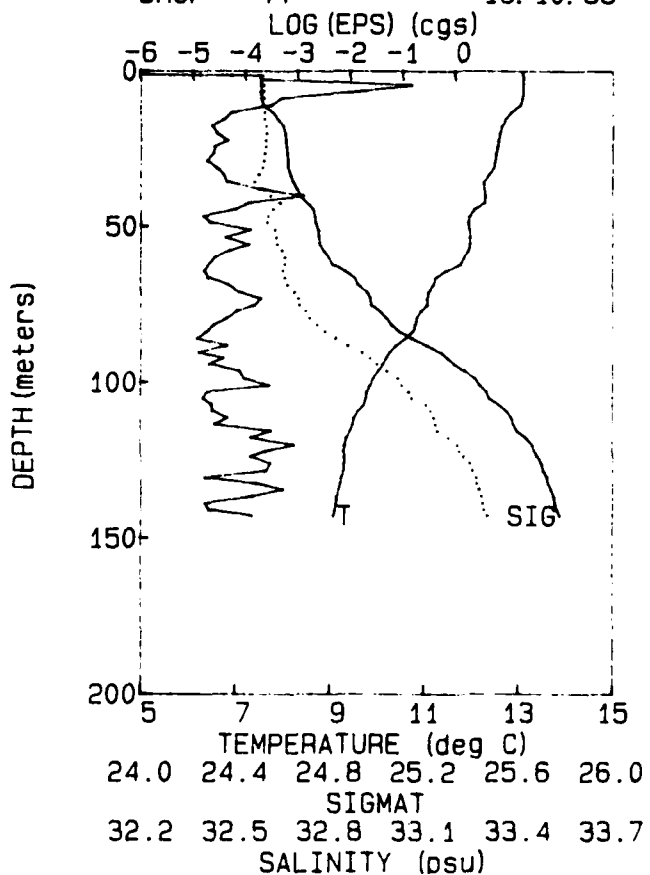
TAPE 142 05-31-87
DROP 43 16:03:28

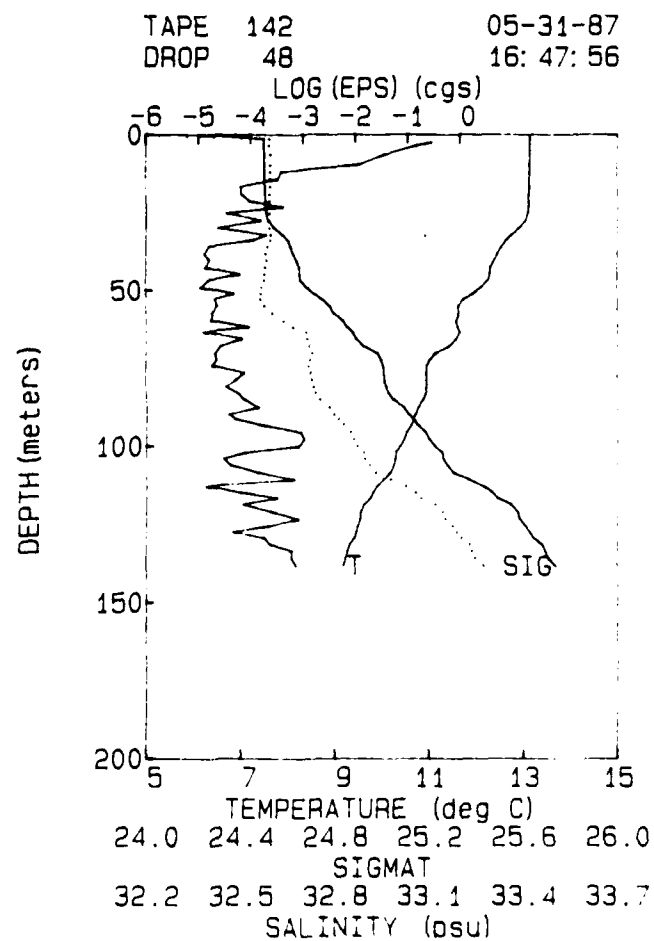
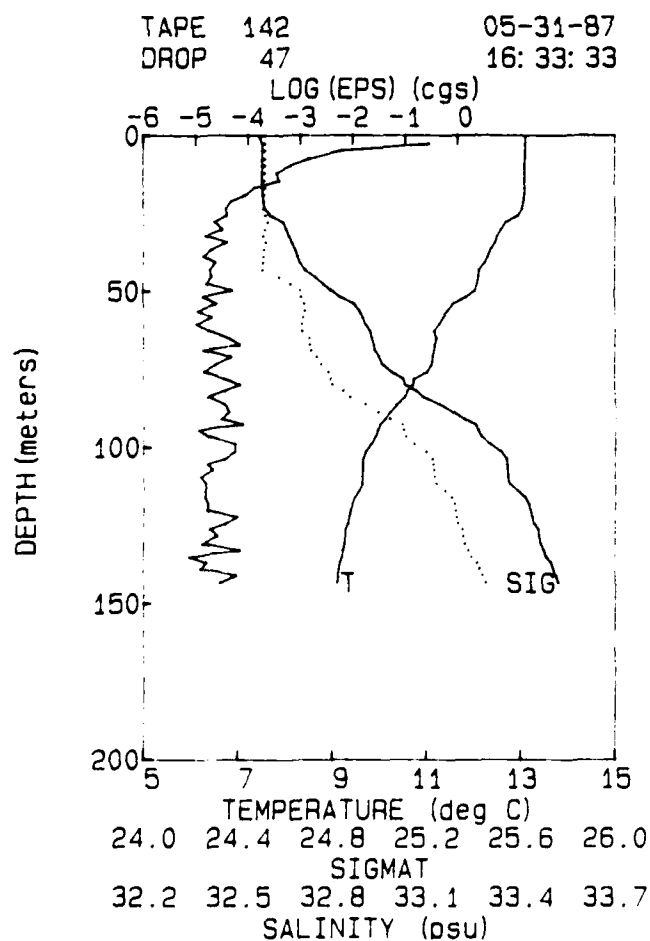
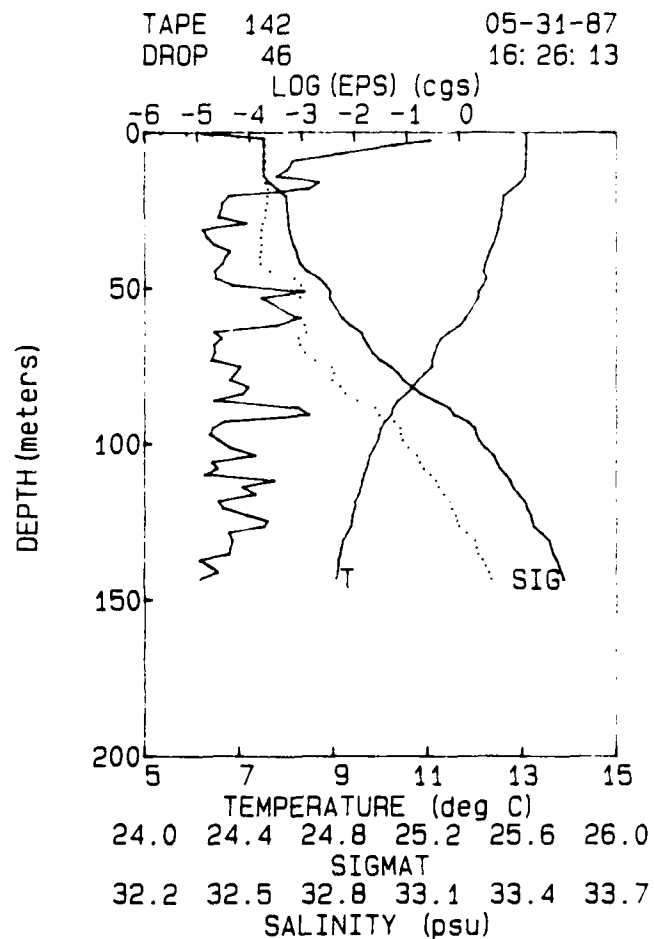
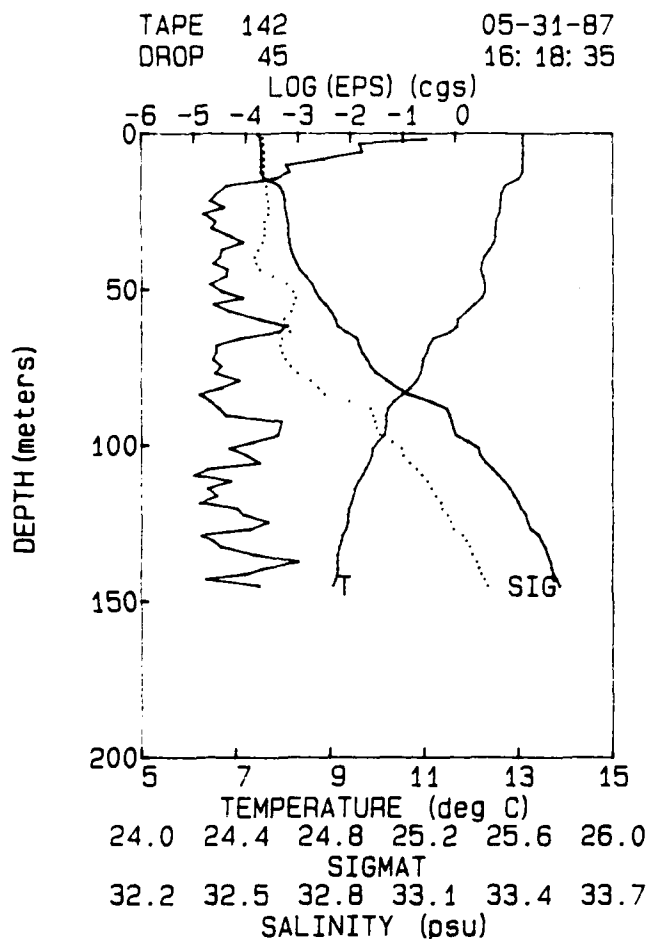


TAPE 142 05-31-87
DROP 42 15:56:03

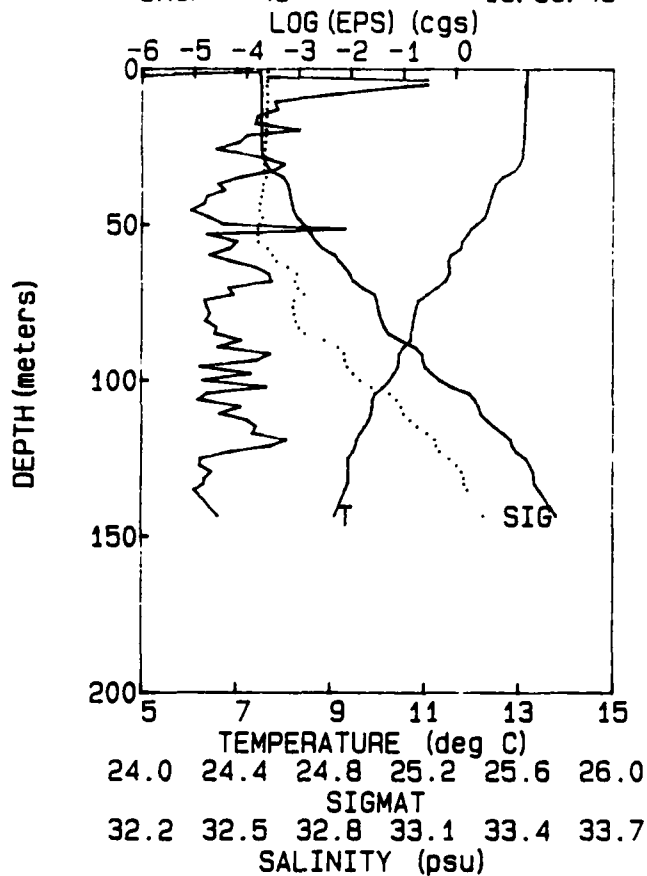


TAPE 142 05-31-87
DROP 44 16:10:53

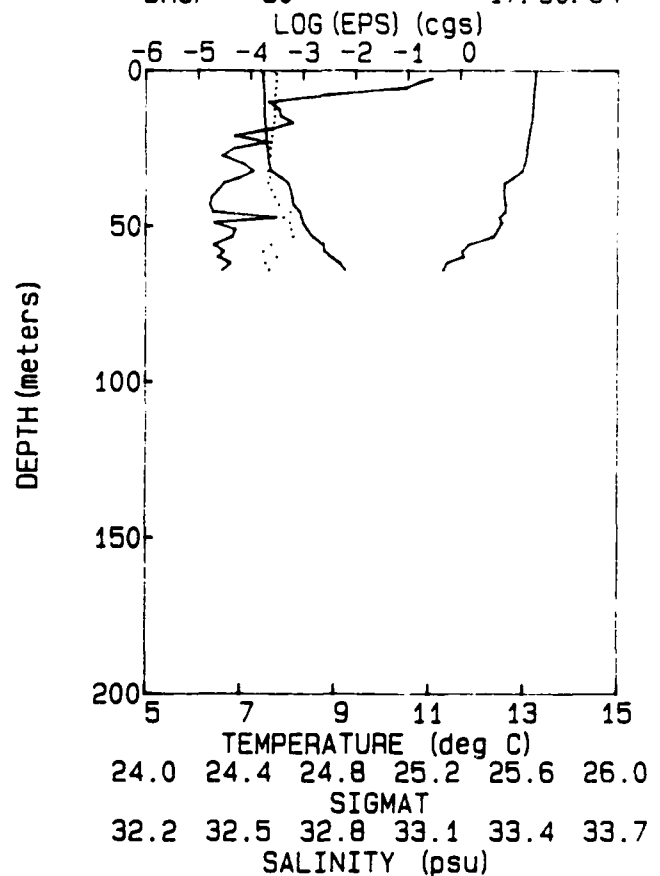




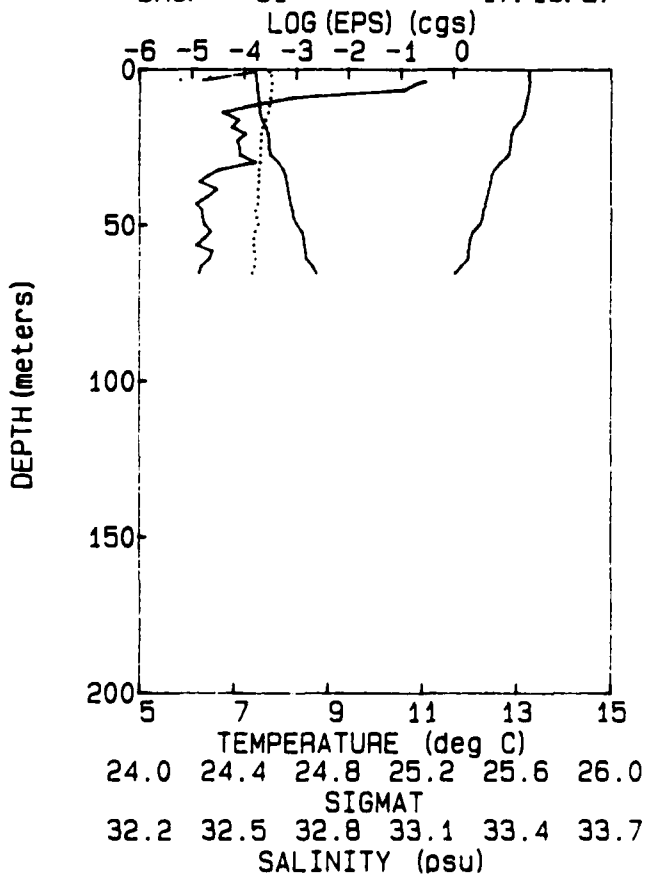
TAPE 142 05-31-87
DROP 49 16:56:45



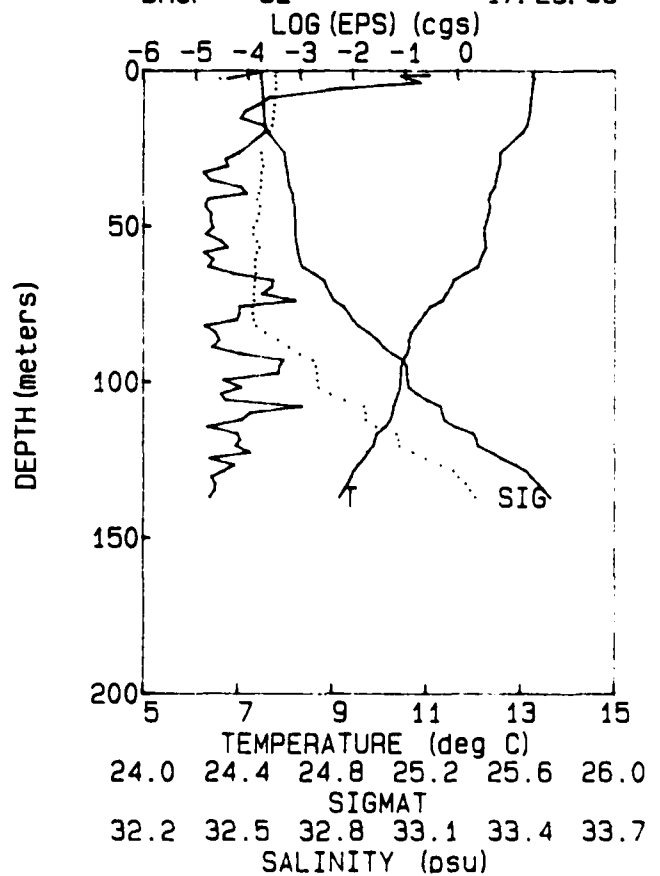
TAPE 142 08-07-35
DROP 50 17:90:64

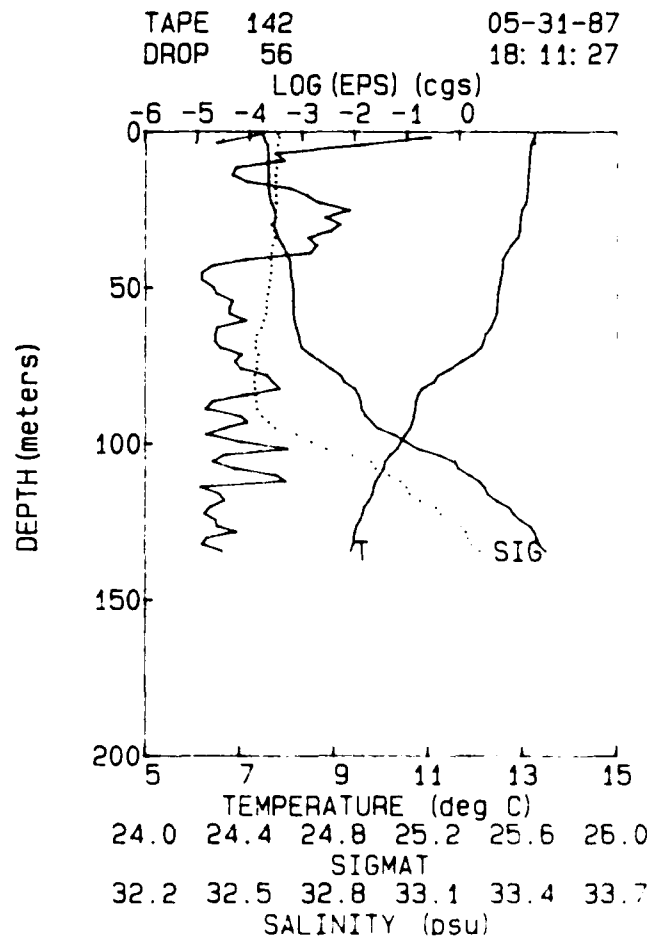
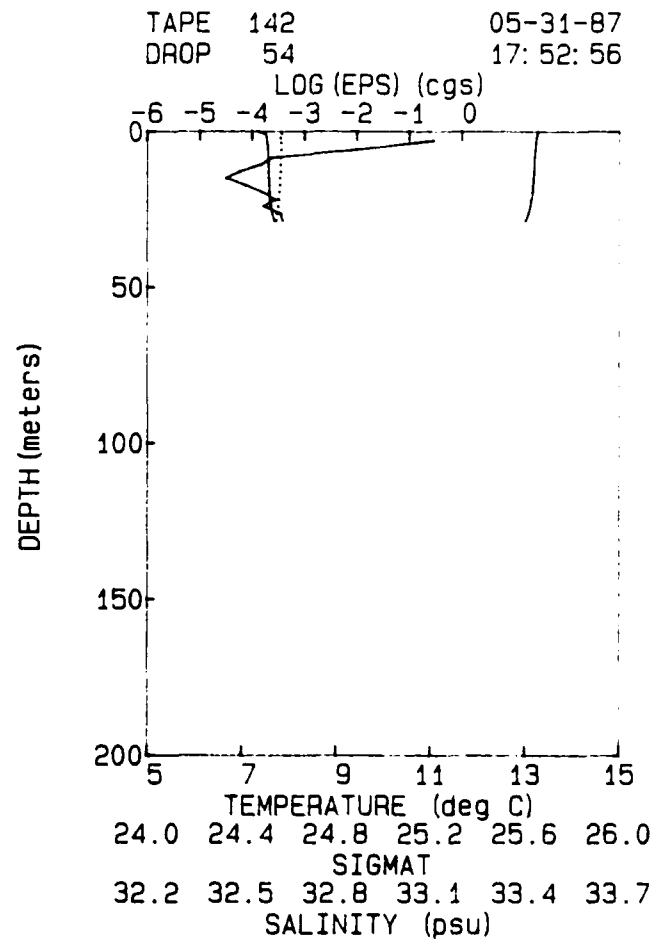
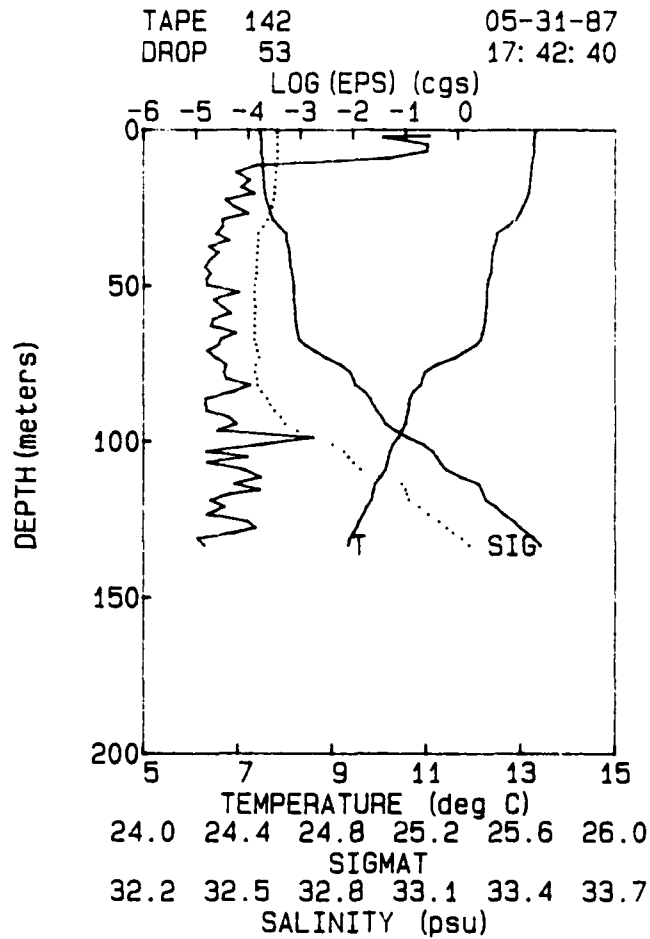


TAPE 142 05-31-87
DROP 51 17:19:27

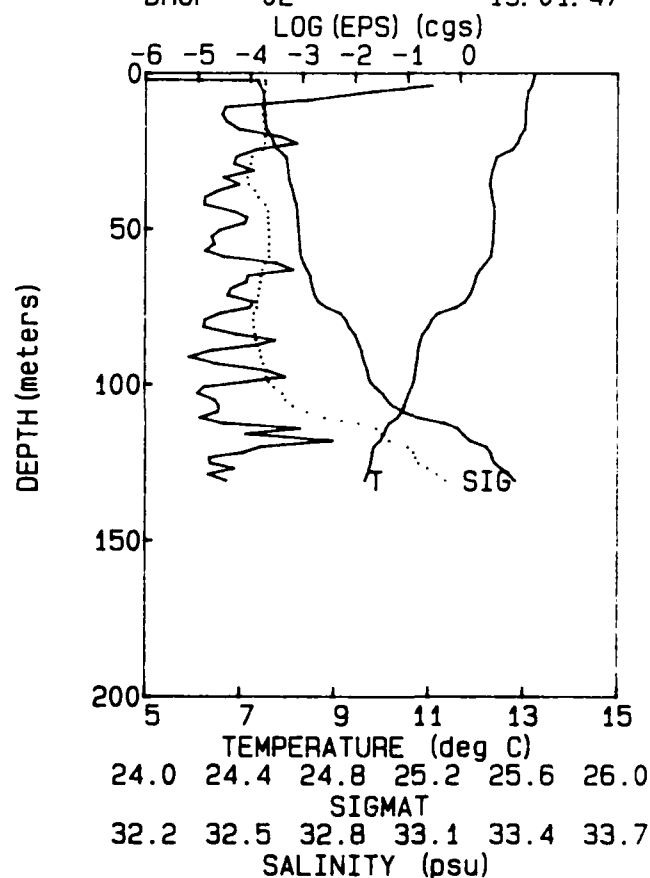


TAPE 142 05-31-87
DROP 52 17:29:38

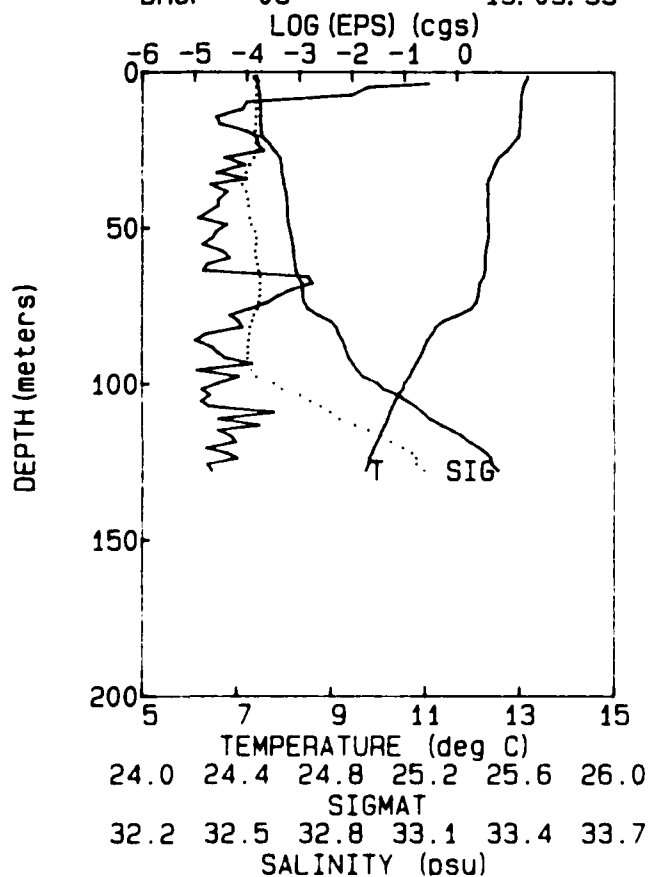




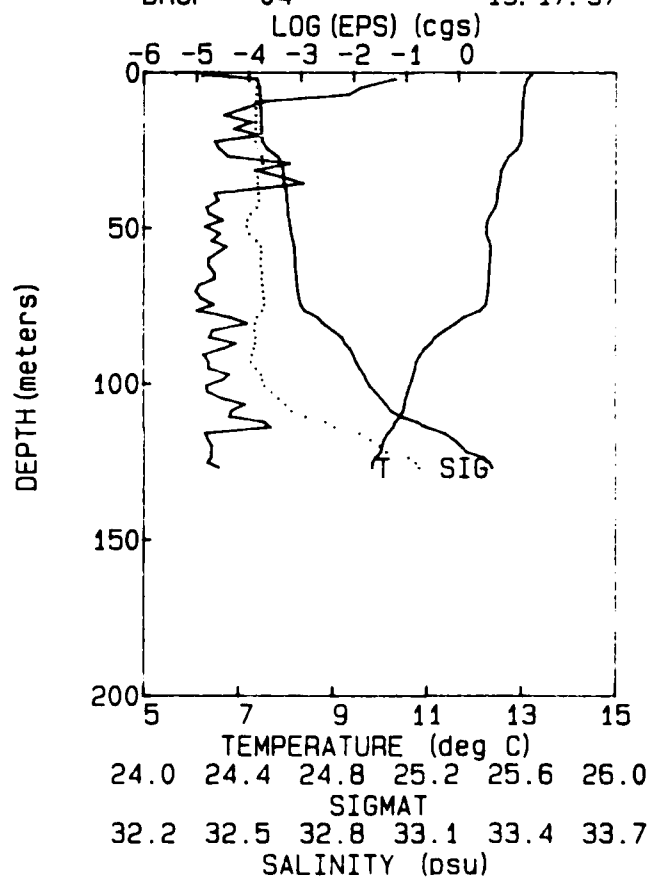
TAPE 143 05-31-87
 DROP 02 19:01:47



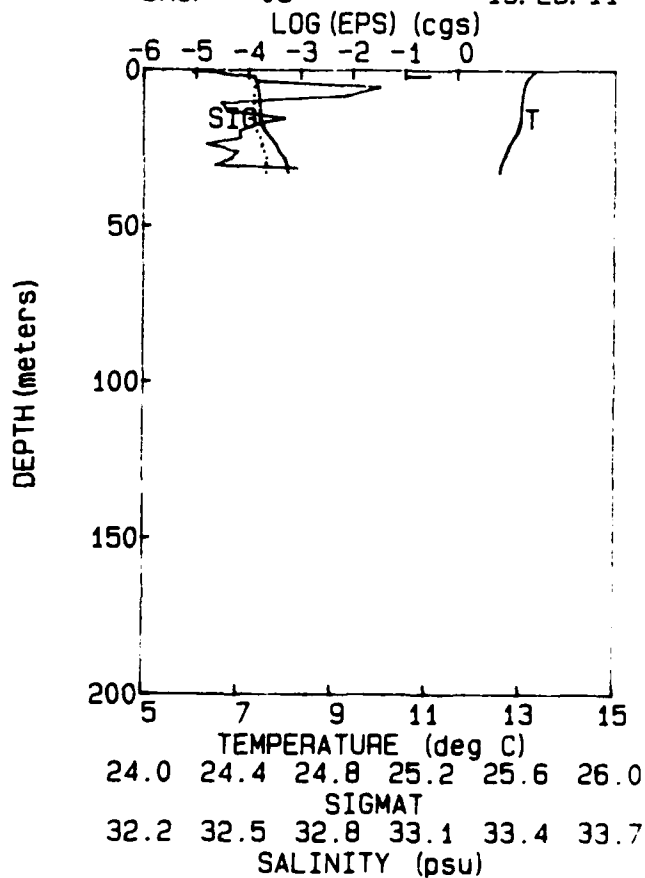
TAPE 143 05-31-87
 DROP 03 19:09:33



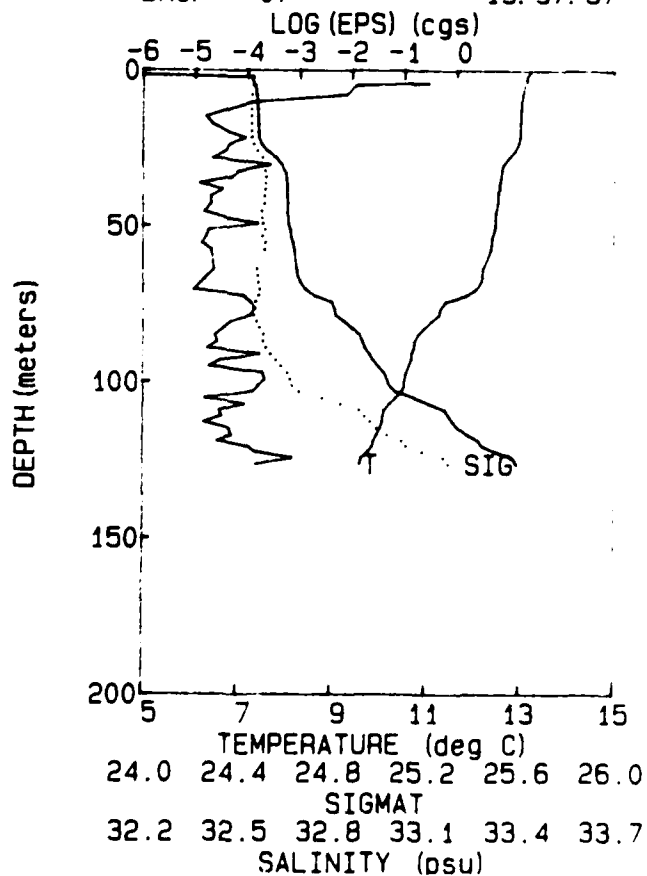
TAPE 143 05-31-87
 DROP 04 19:17:37



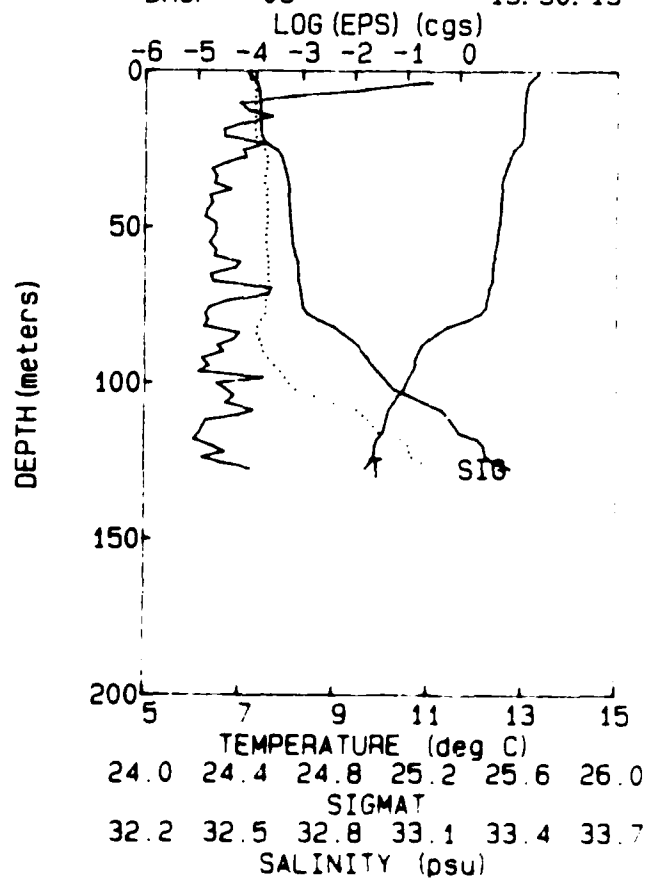
TAPE 143 05-31-87
DROP 05 19:25:11



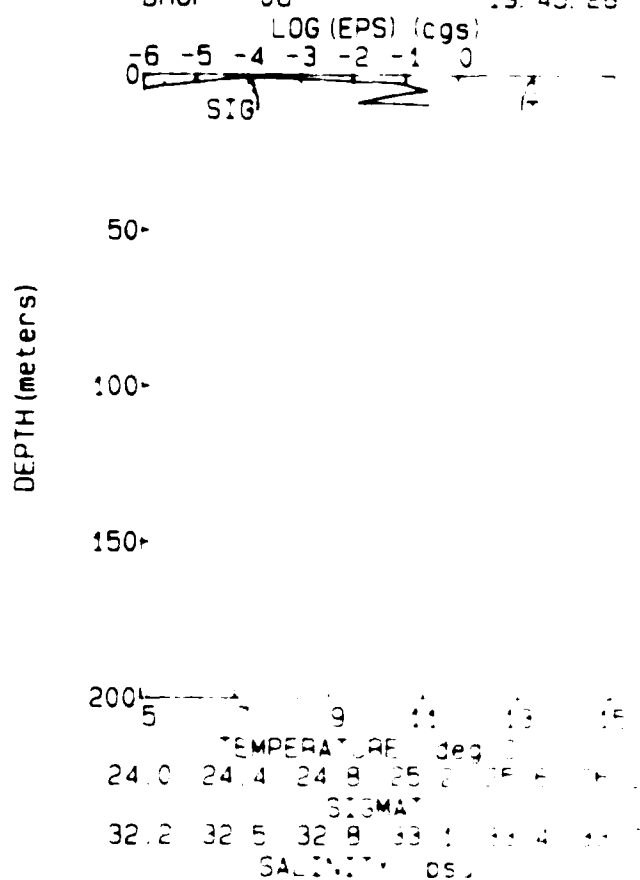
TAPE 143 05-31-87
DROP 07 19:37:57



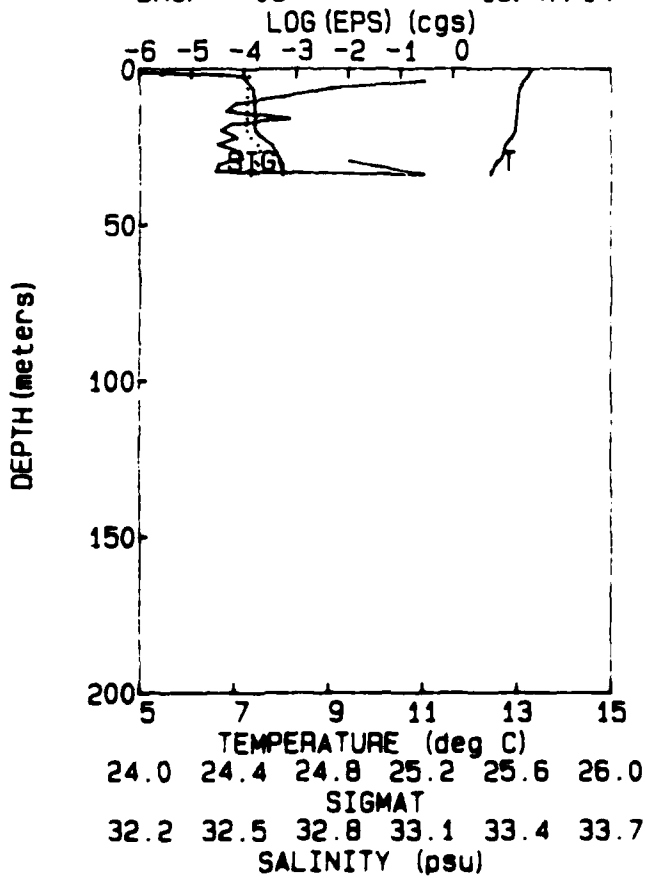
TAPE 143 05-31-87
DROP 06 19:30:19



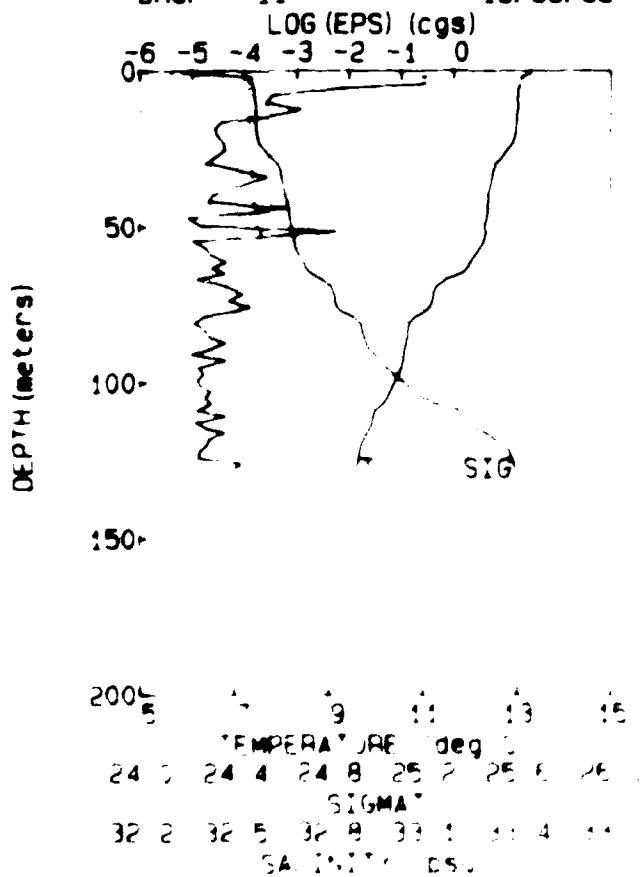
TAPE 143 05-31-87
DROP 08 19:45:28



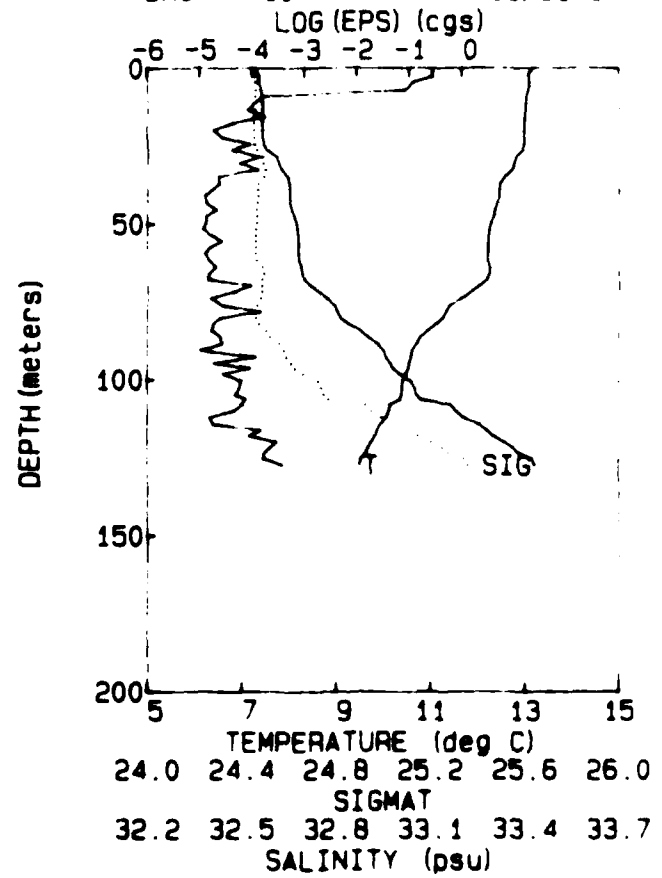
TAPE 143 05-31-87
DROP 09 19:47:14



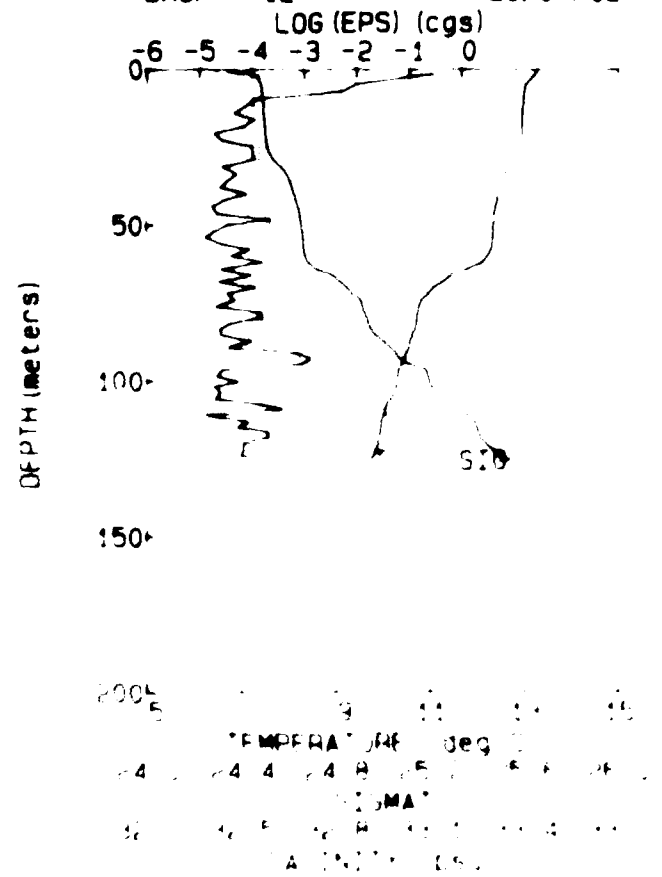
TAPE 143 05-31-87
DROP 11 19:59:33



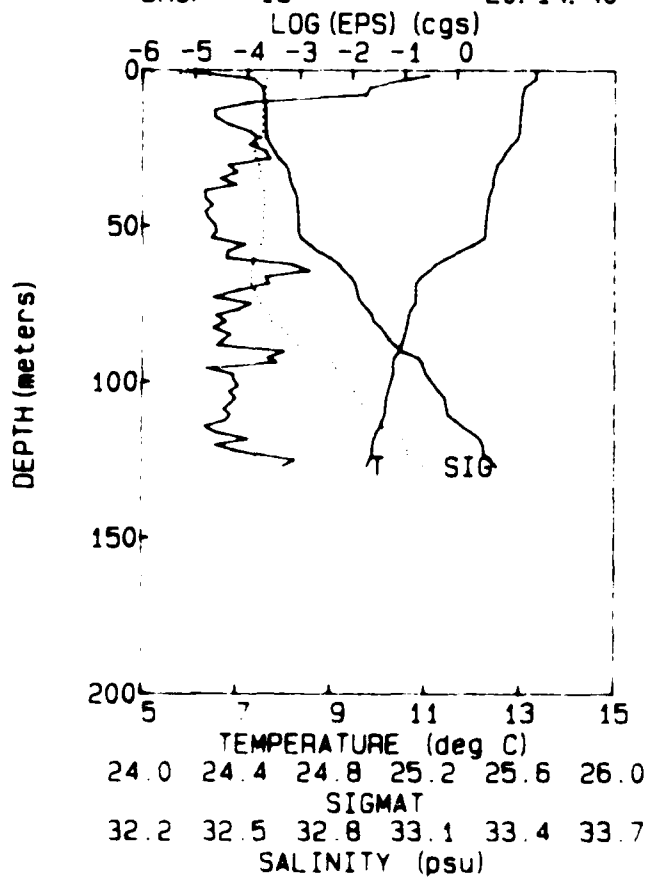
TAPE 143 05-31-87
DROP 10 19:51:54



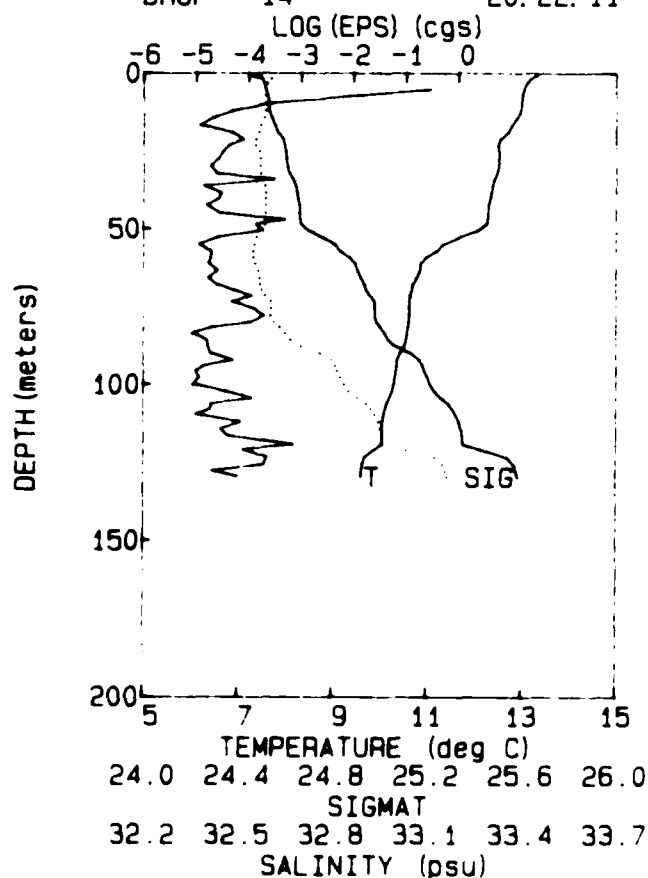
TAPE 143 05-31-87
DROP 12 20:07:12



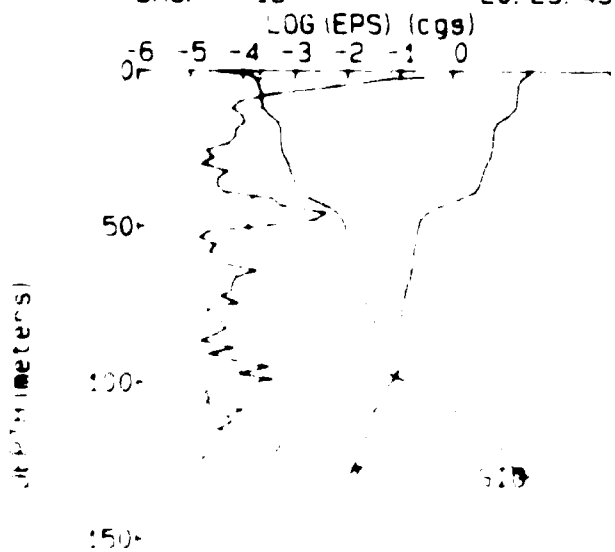
TAPE 143 05-31-87
DROP 13 20:14:40



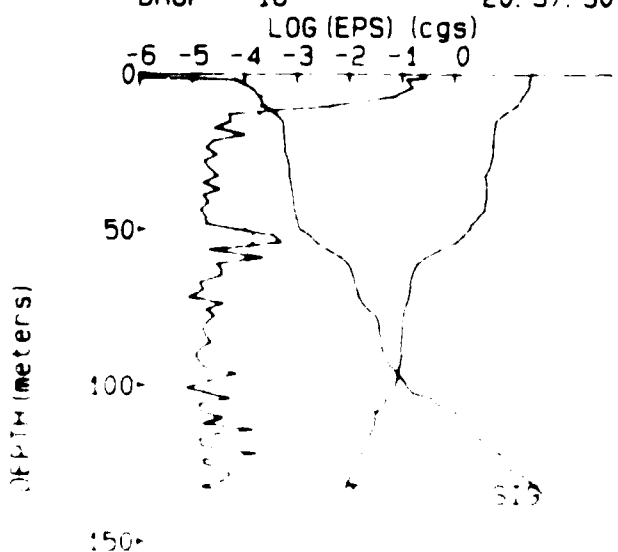
TAPE 143 05-31-87
DROP 14 20:22:11



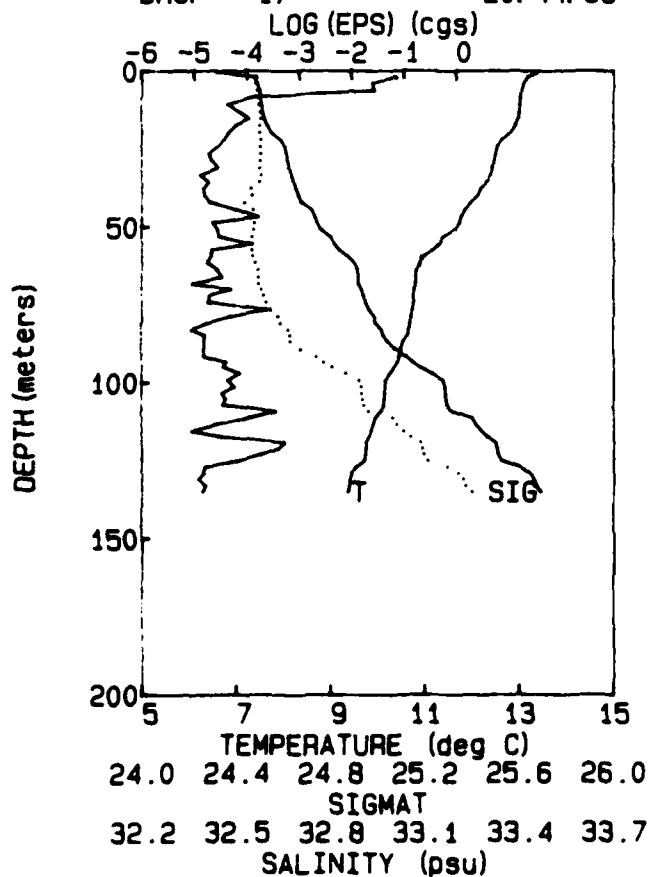
TAPE 143 05-31-87
DROP 15 20:29:49



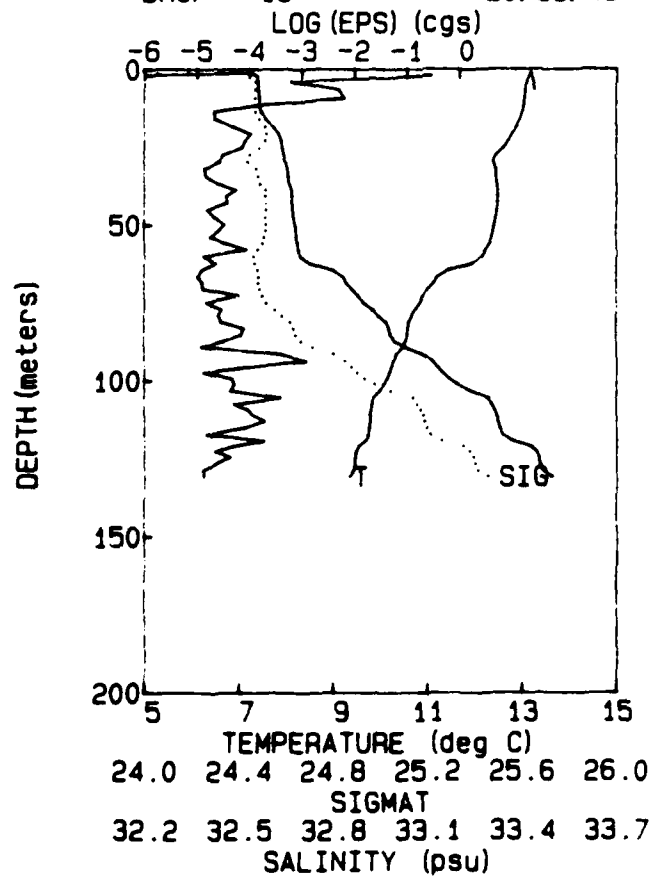
TAPE 143 05-31-87
DROP 16 20:37:30



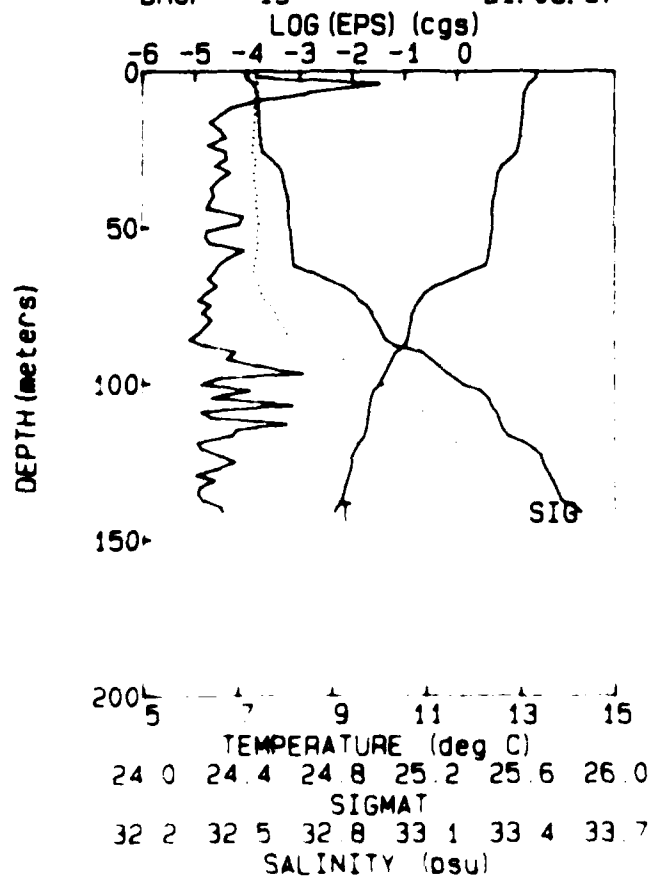
TAPE 143 05-31-87
DROP 17 20: 44: 58



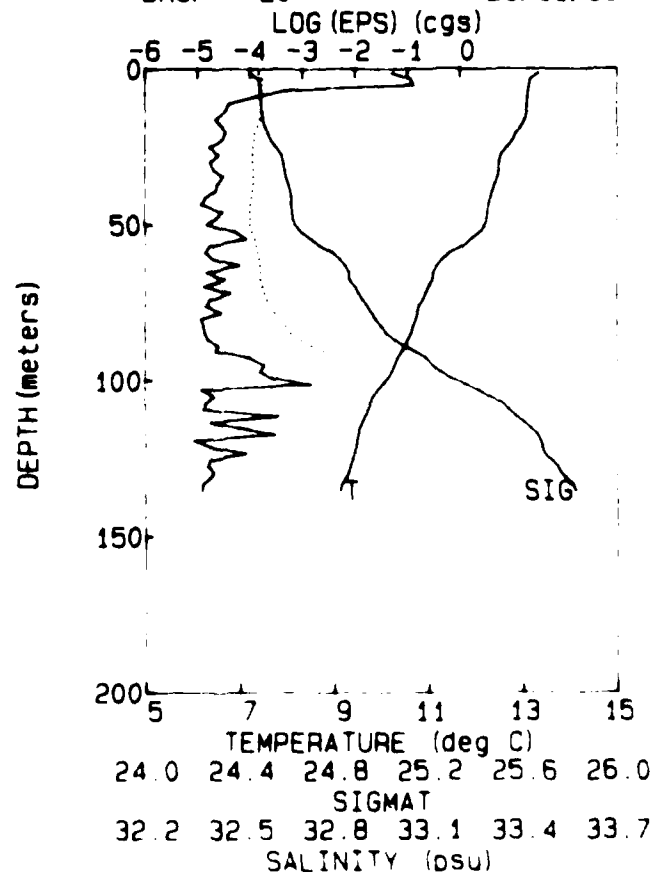
TAPE 143 05-31-87
DROP 18 20: 55: 48



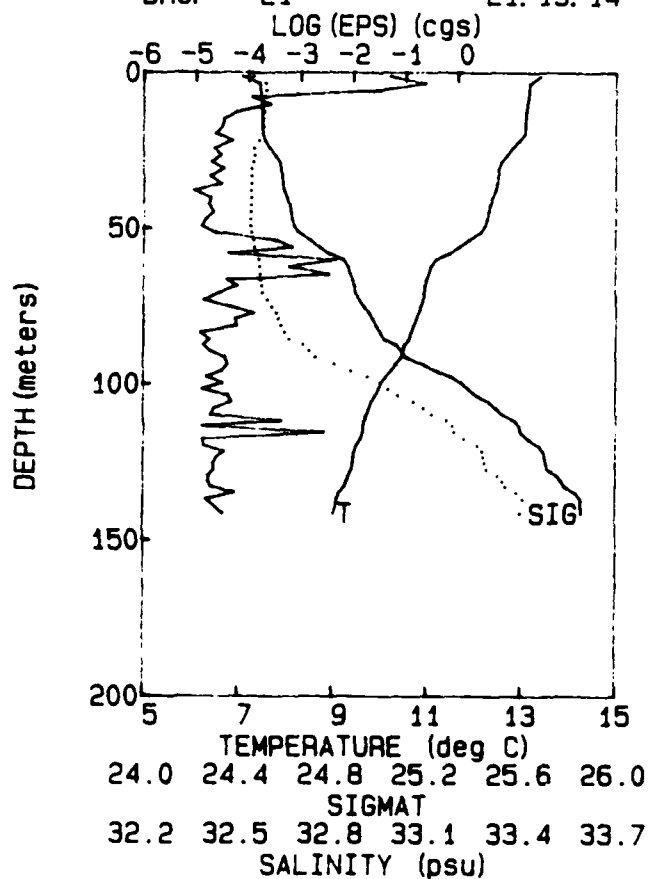
TAPE 143 05-31-87
DROP 19 21: 03: 57



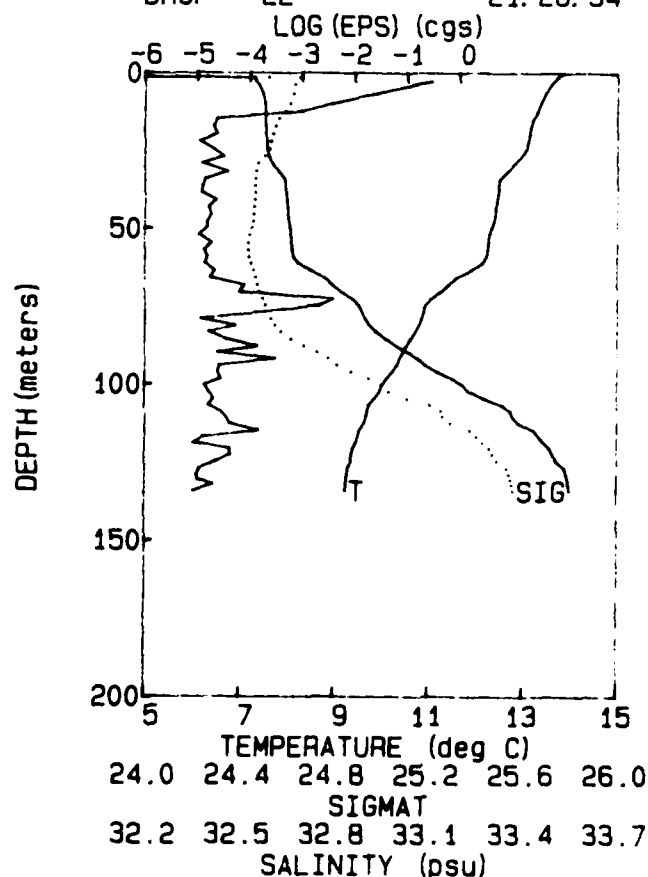
TAPE 143 05-31-87
DROP 20 21: 11: 33



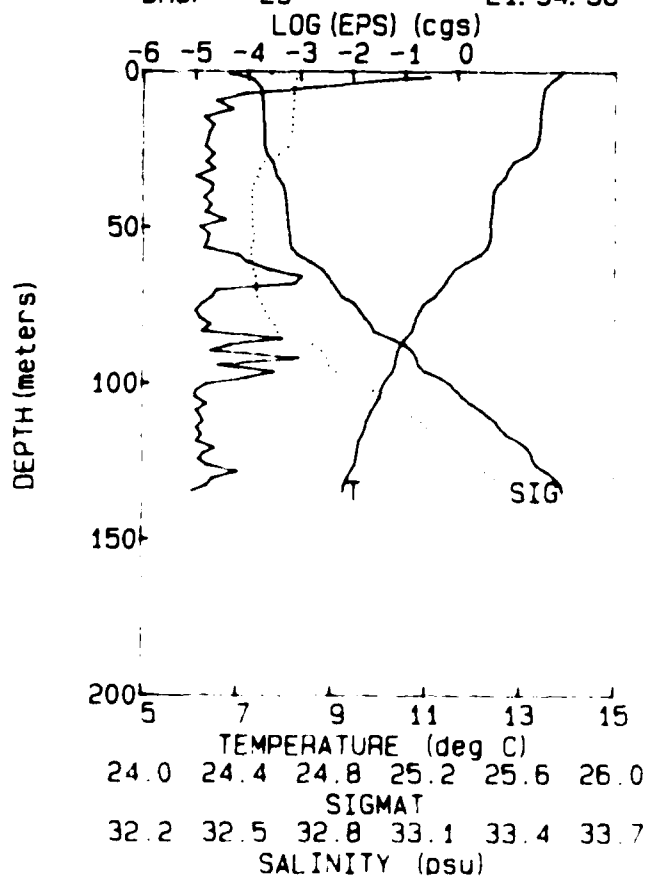
TAPE 143 05-31-87
DROP 21 21:19:14



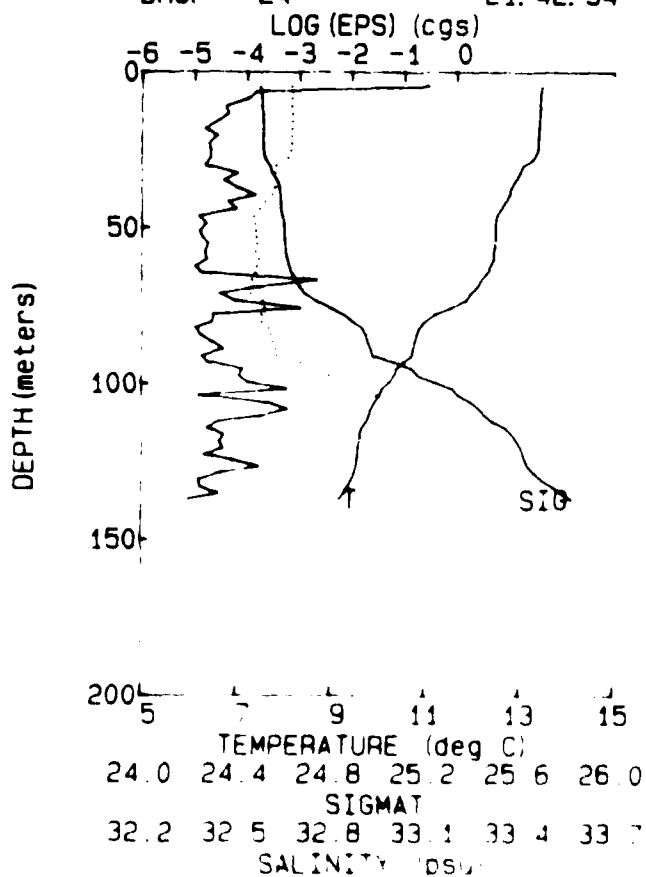
TAPE 143 05-31-87
DROP 22 21:26:54



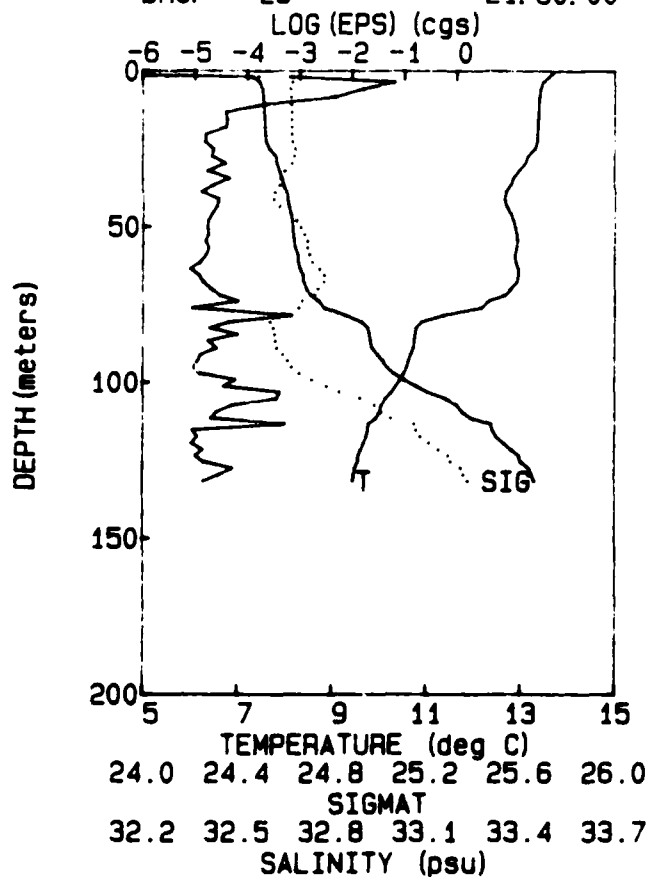
TAPE 143 05-31-87
DROP 23 21:34:56



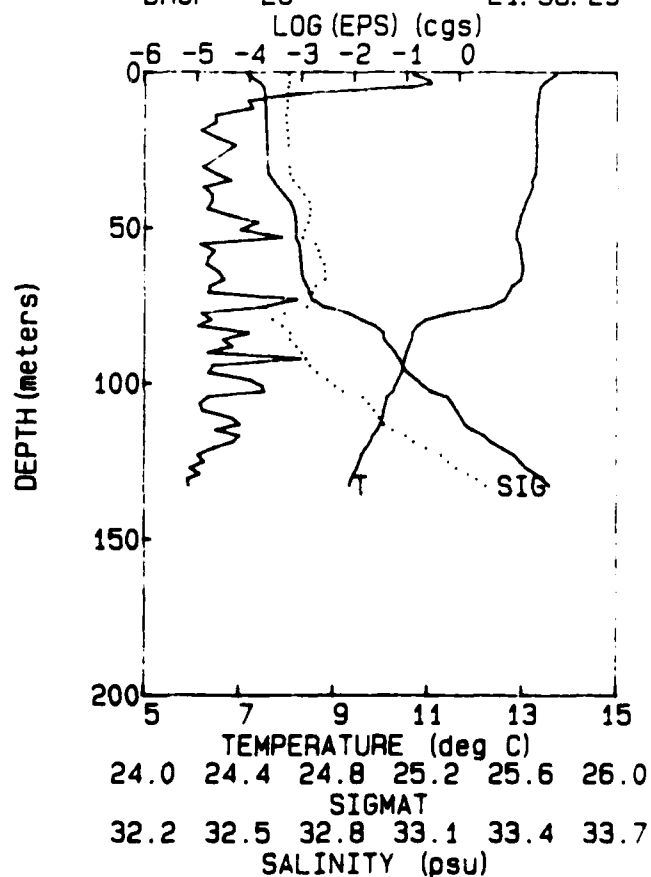
TAPE 143 05-31-87
DROP 24 21:42:34



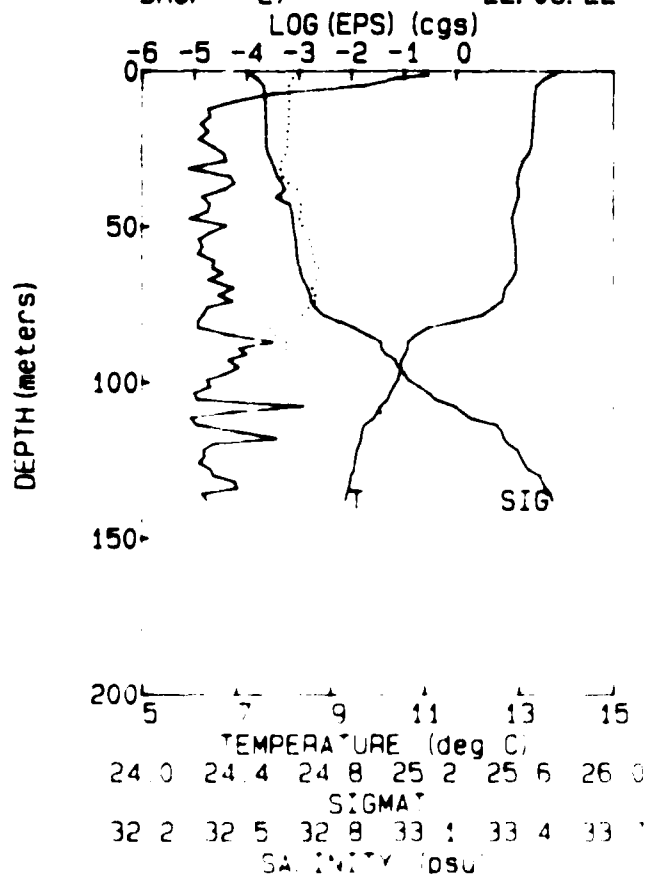
TAPE 143 05-31-87
DROP 25 21:50:00



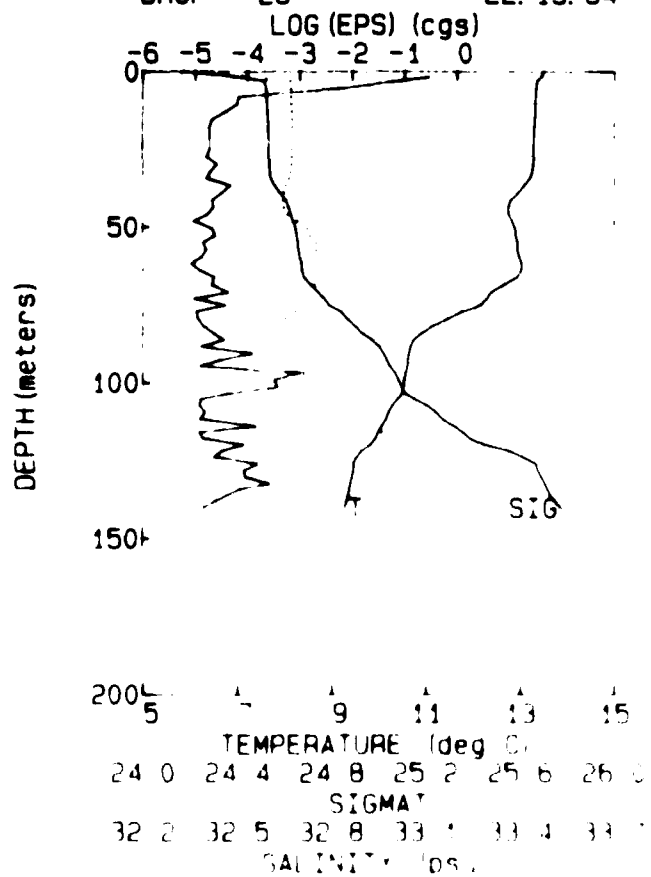
TAPE 143 05-31-87
DROP 26 21:58:29

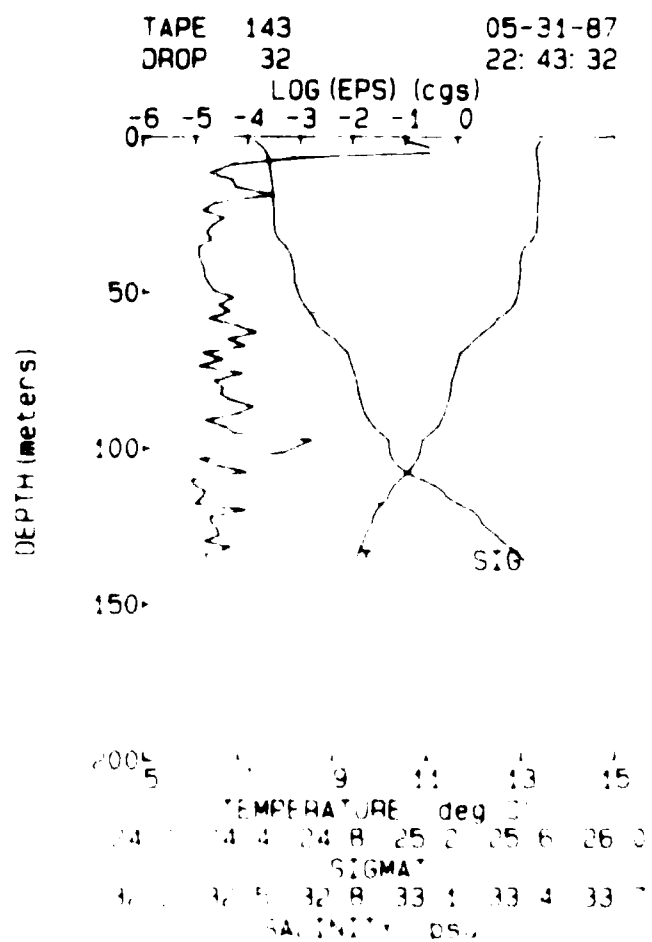
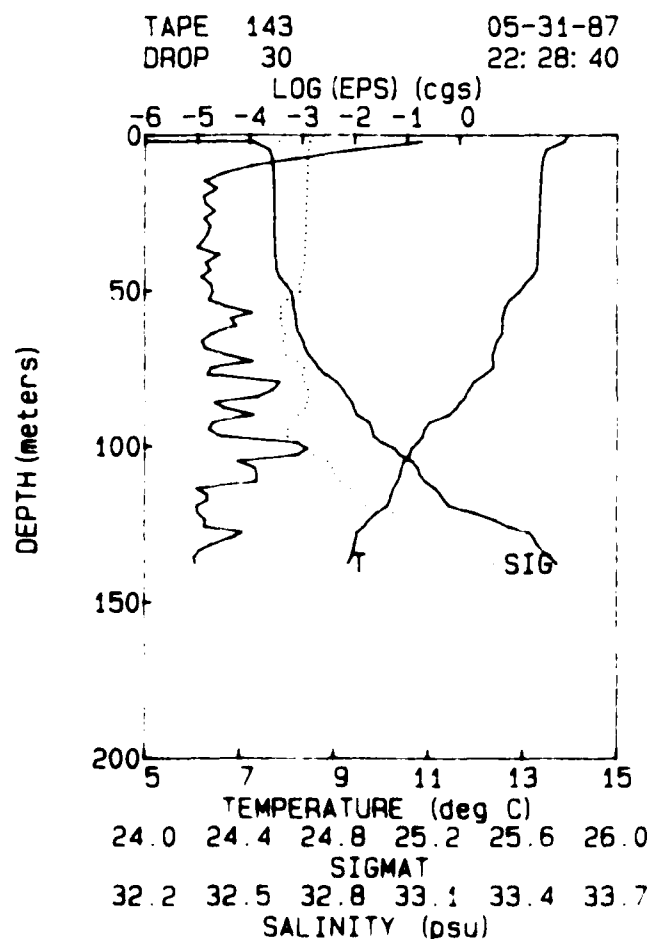
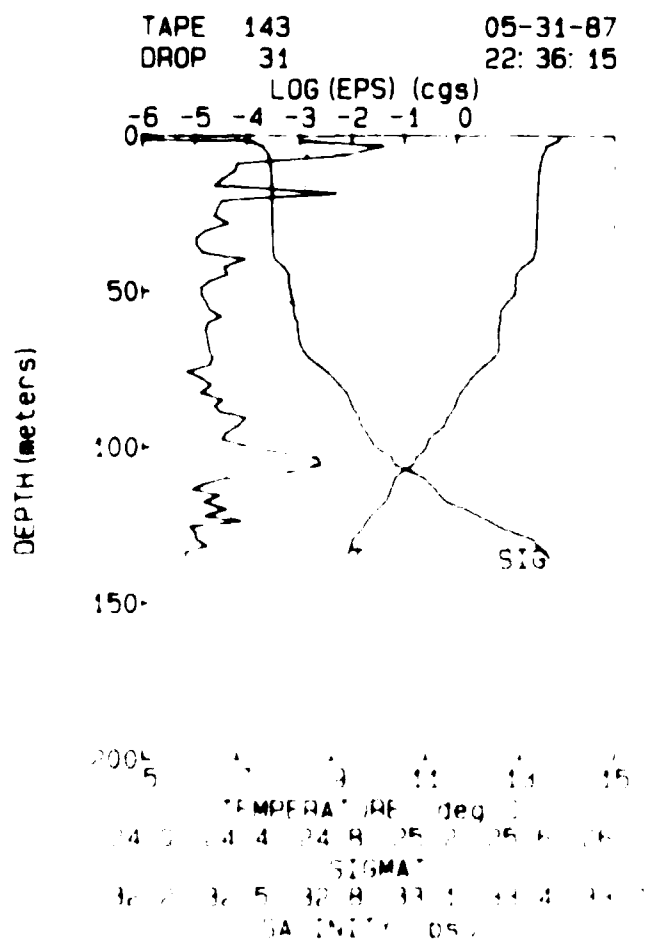
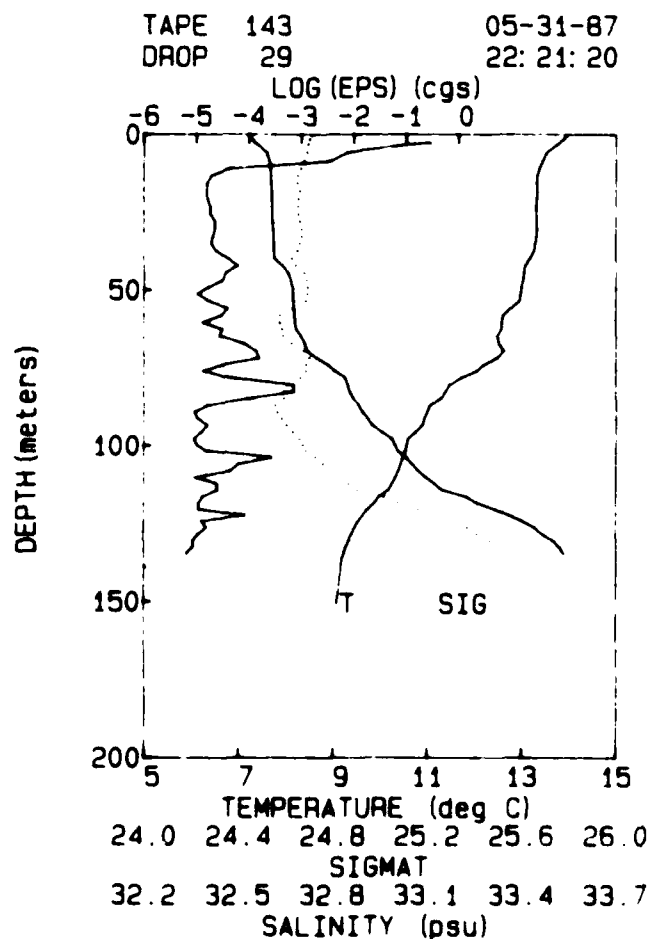


TAPE 143 05-31-87
DROP 27 22:06:22

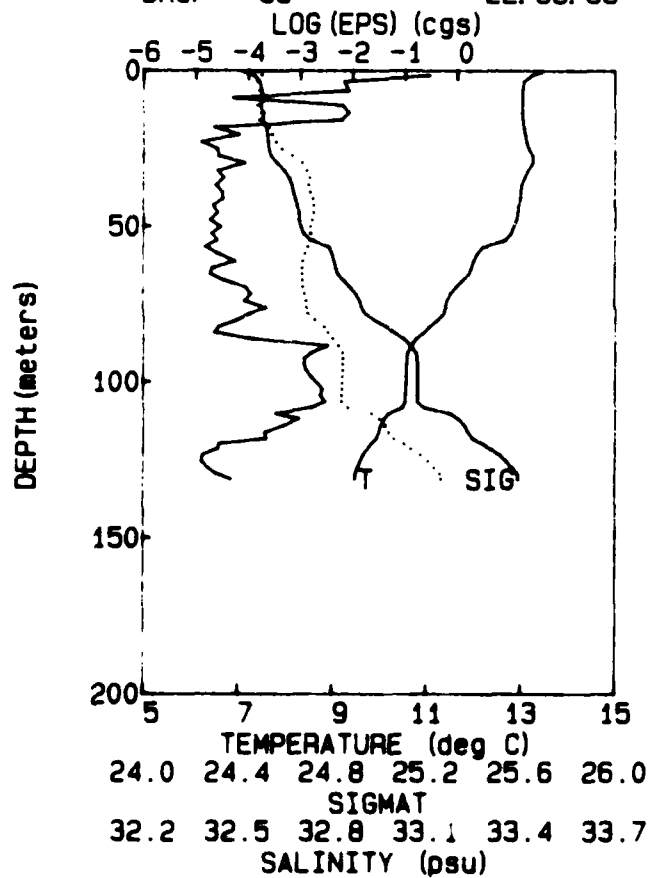


TAPE 143 05-31-87
DROP 28 22:13:54

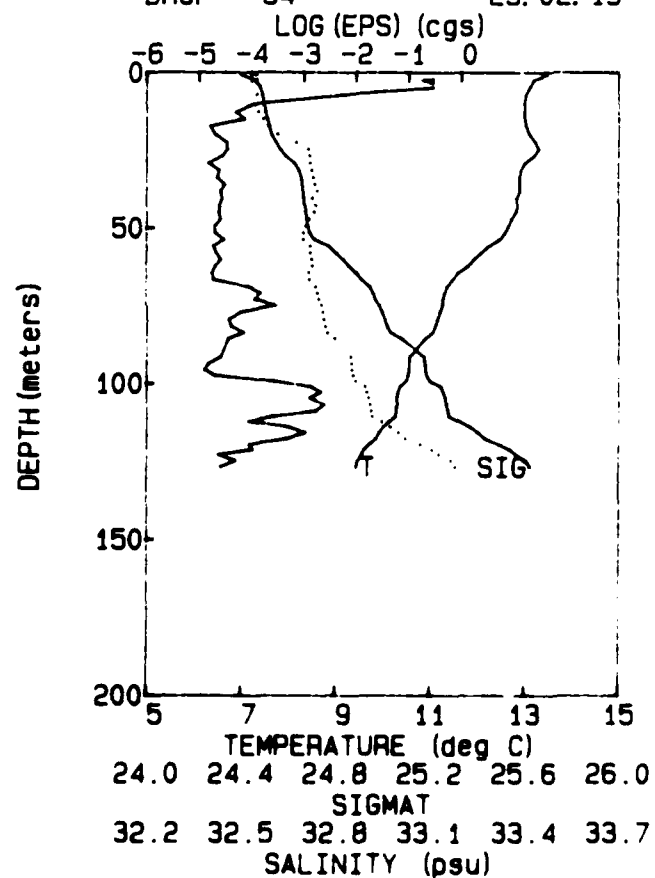




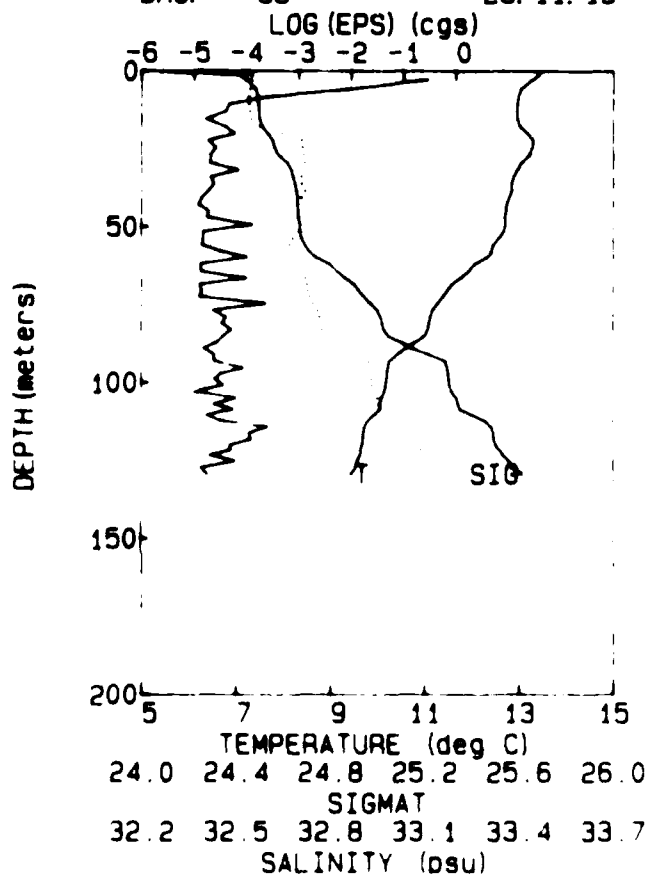
TAPE 143 05-31-87
DROP 33 22: 53: 33



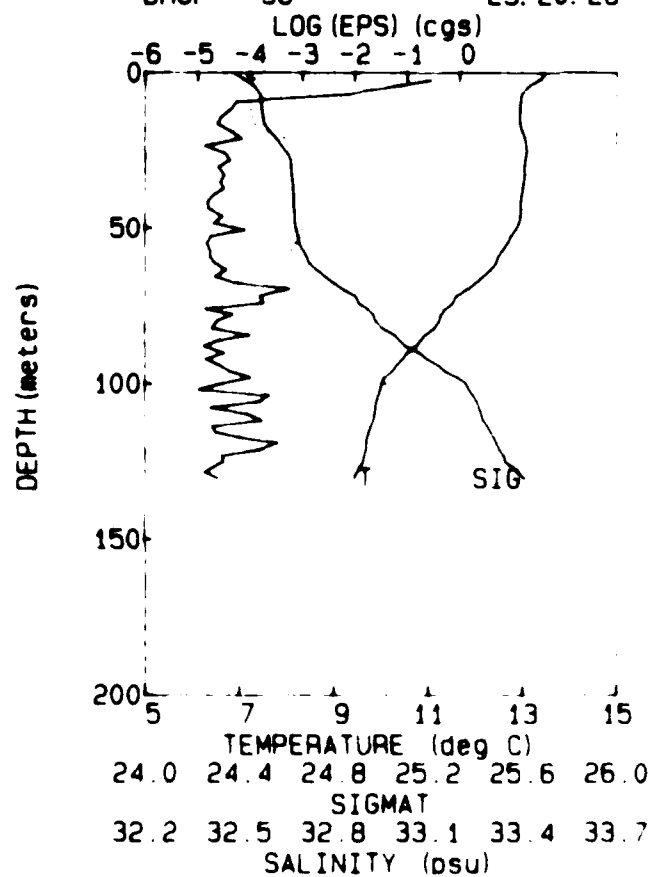
TAPE 143 05-31-87
DROP 34 23: 02: 19



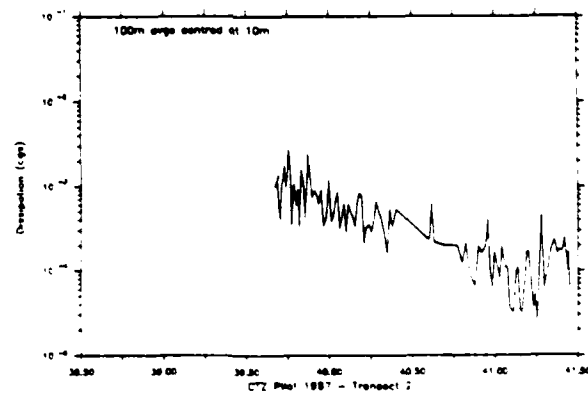
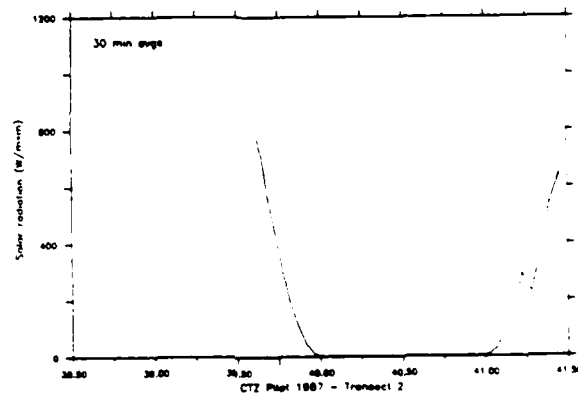
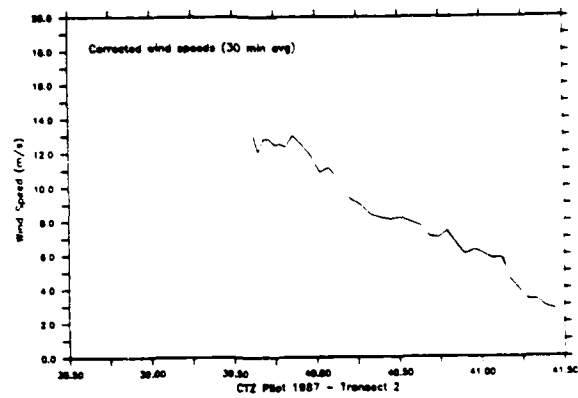
TAPE 143 05-31-87
DROP 35 23: 11: 19

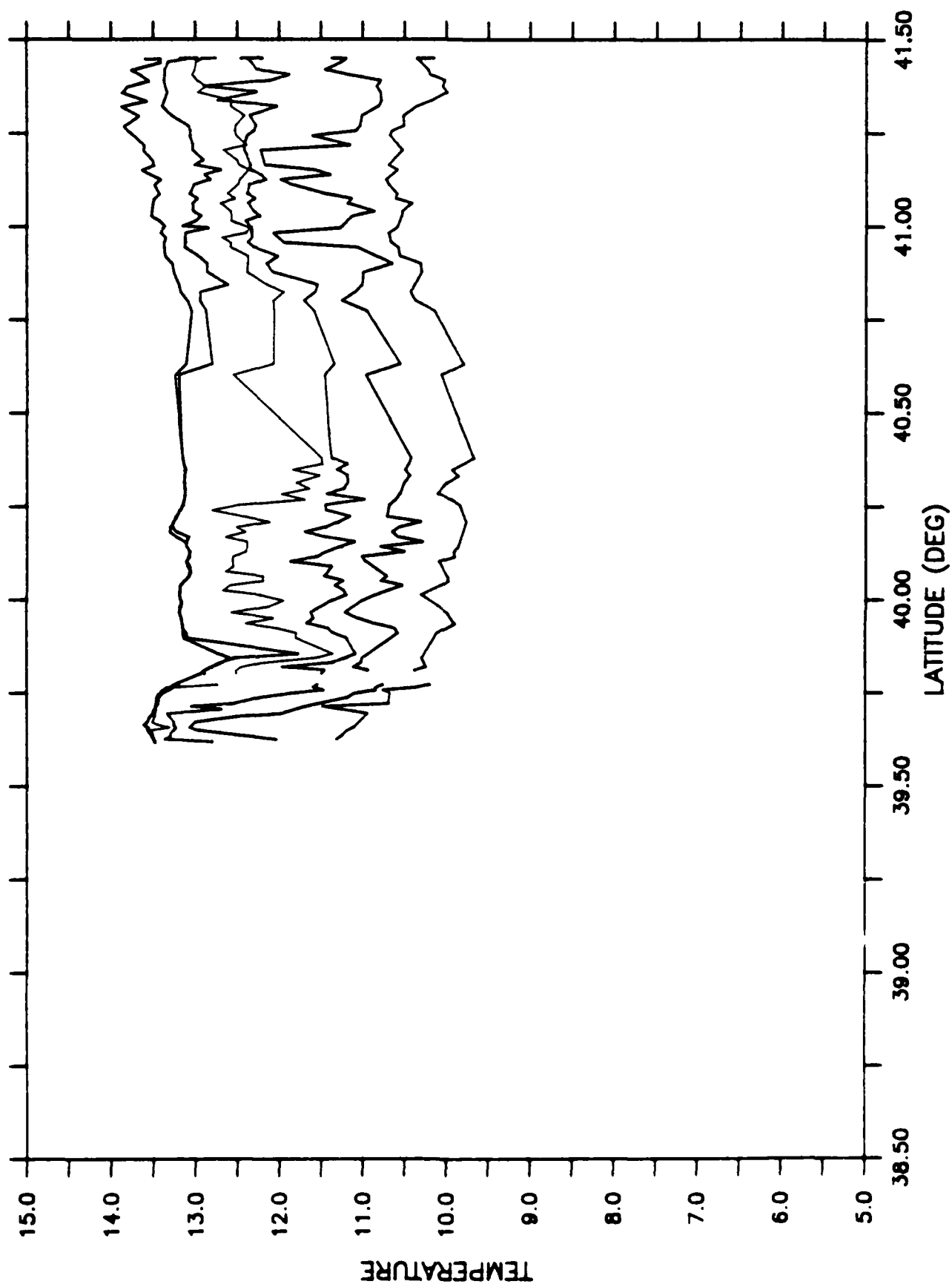


TAPE 143 05-31-87
DROP 36 23: 20: 28

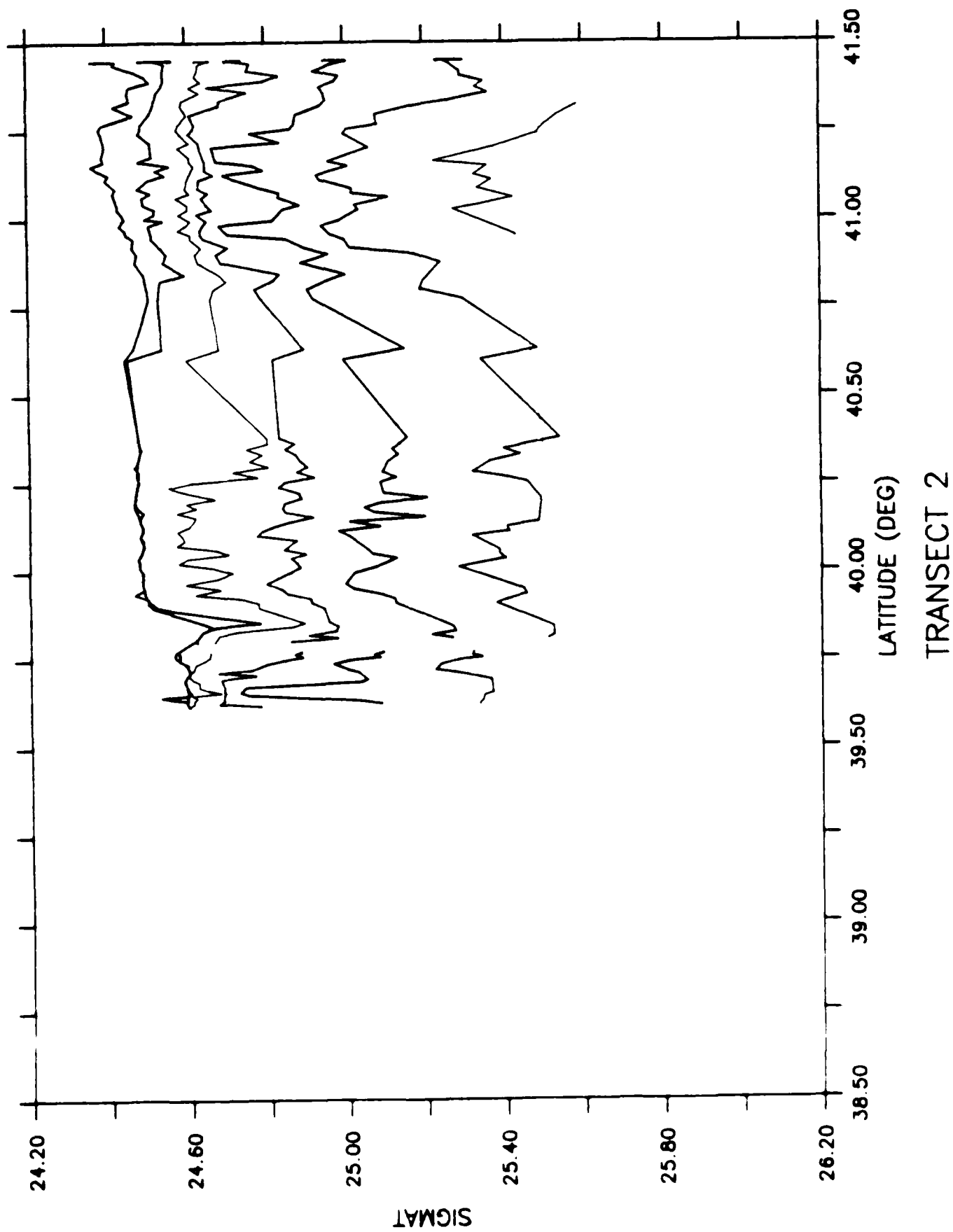


TRANSECT 2

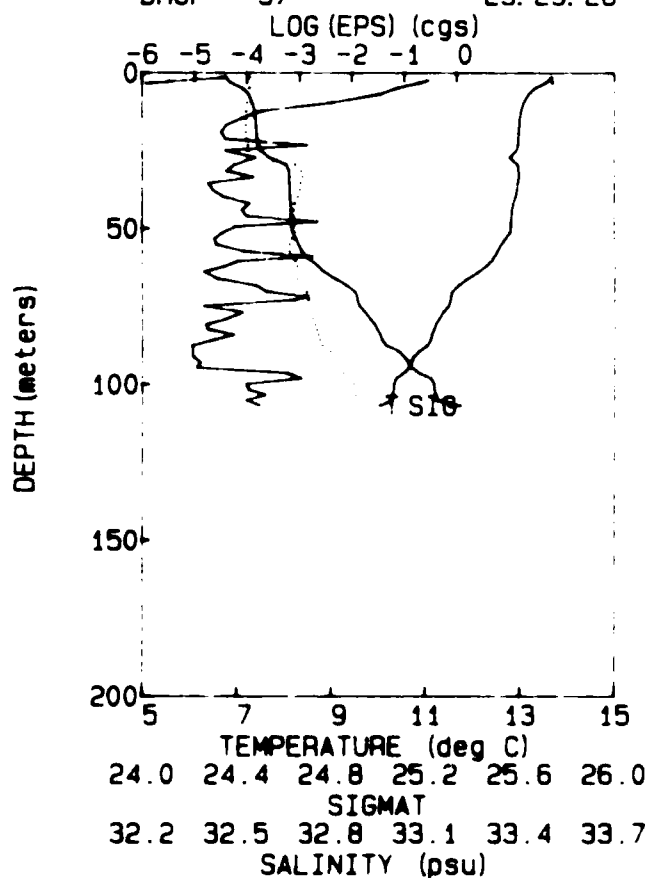




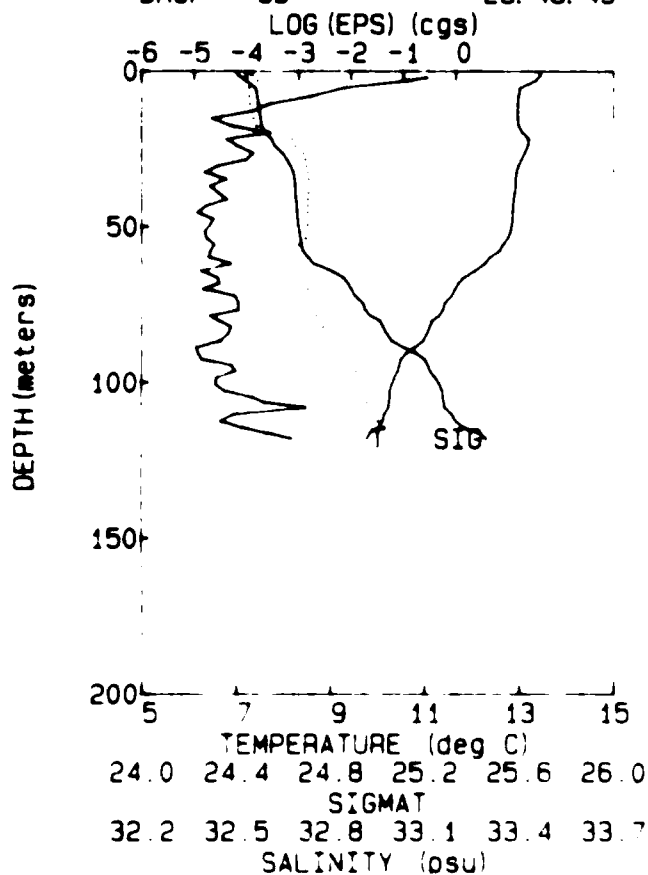
TRANSECT 2



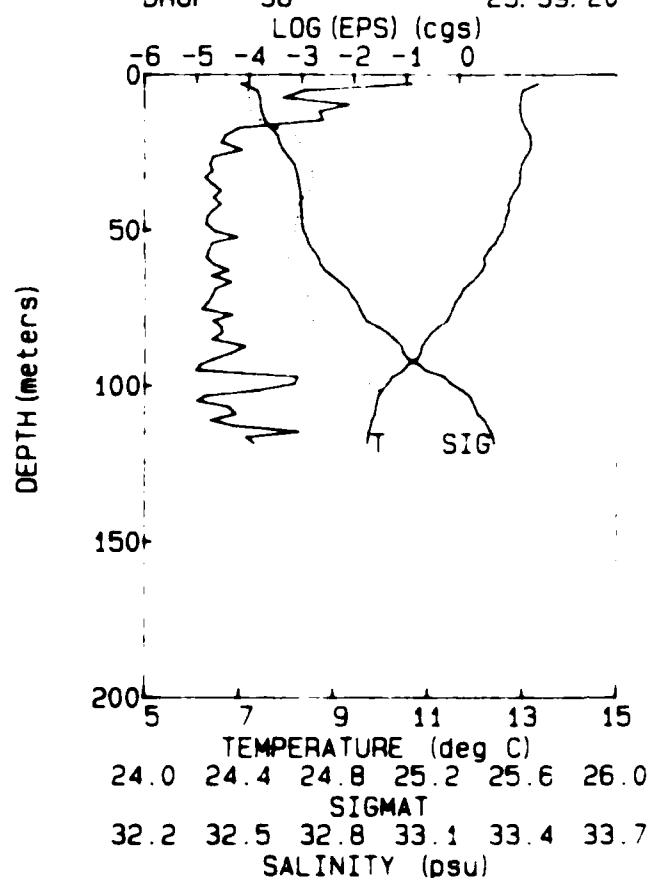
TAPE 143 05-31-87
DROP 37 23: 29: 28



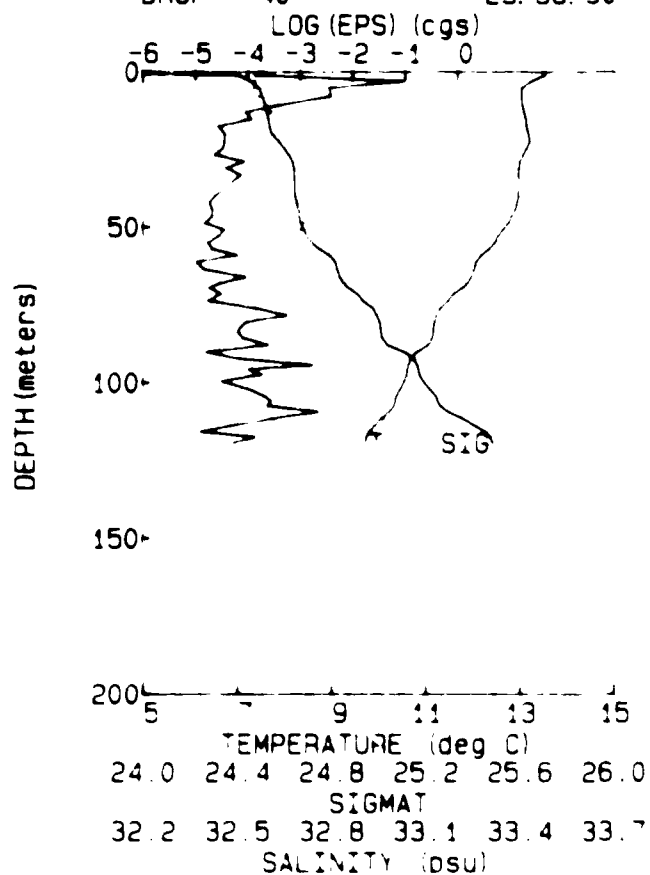
TAPE 143 05-31-87
DROP 39 23: 48: 49

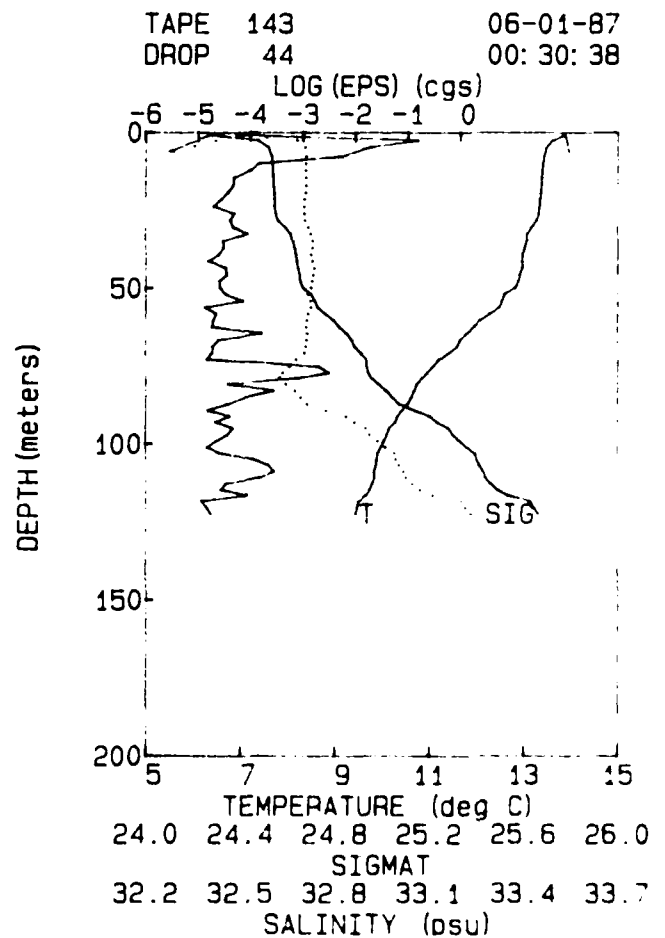
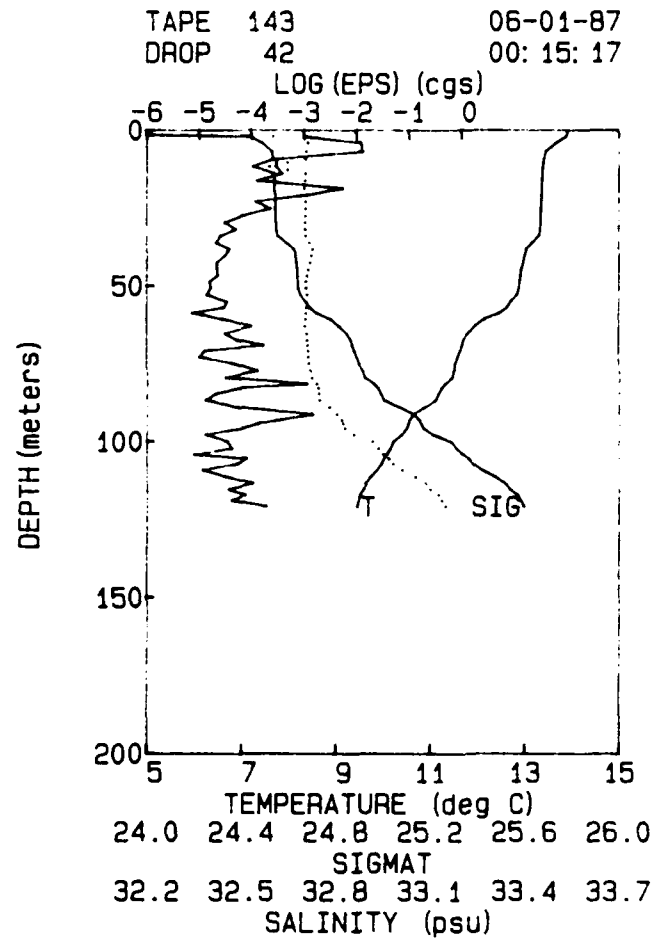
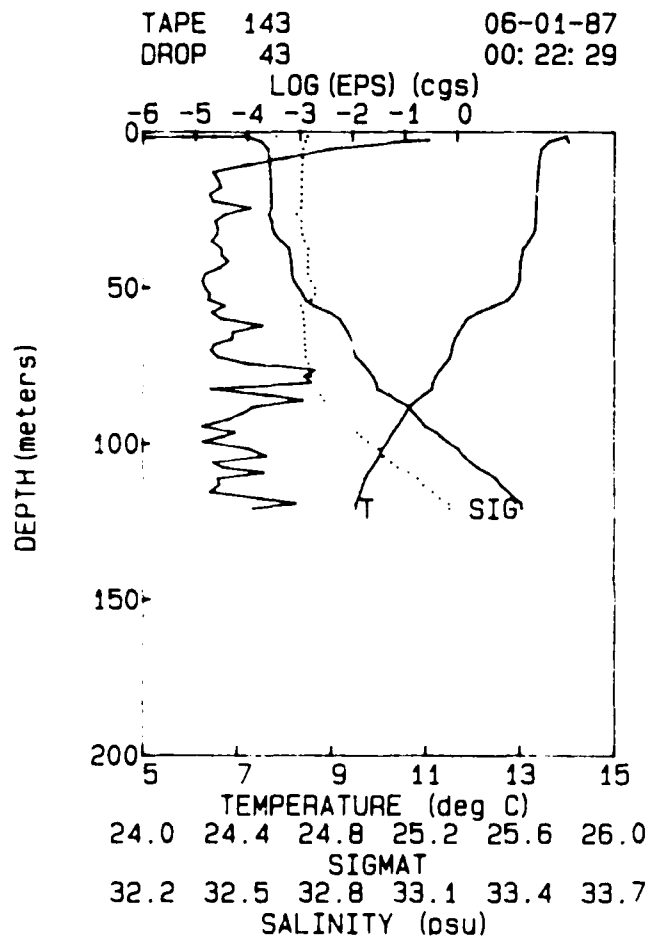
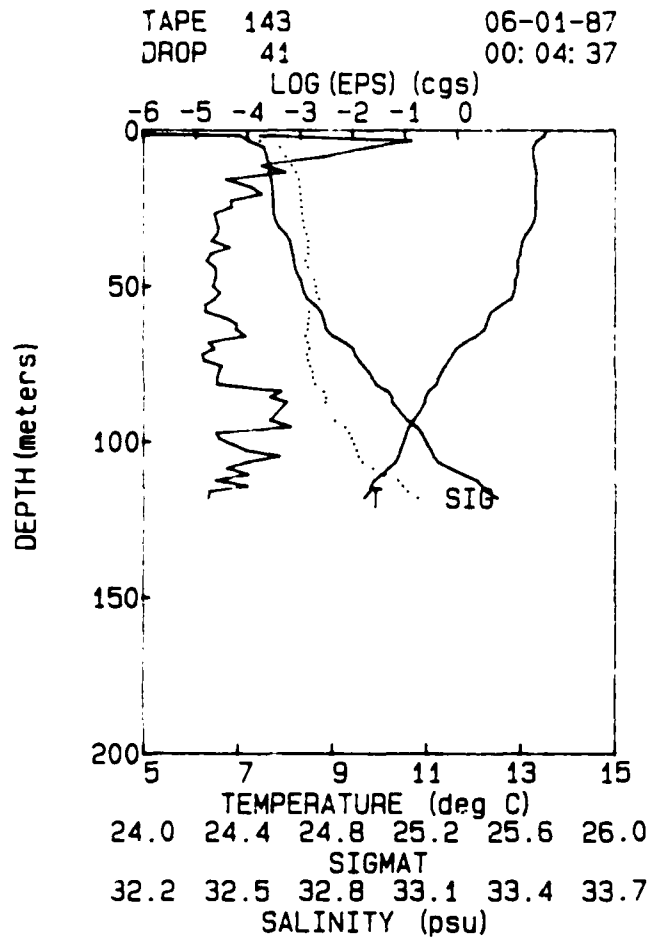


TAPE 143 05-31-87
DROP 38 23: 39: 20

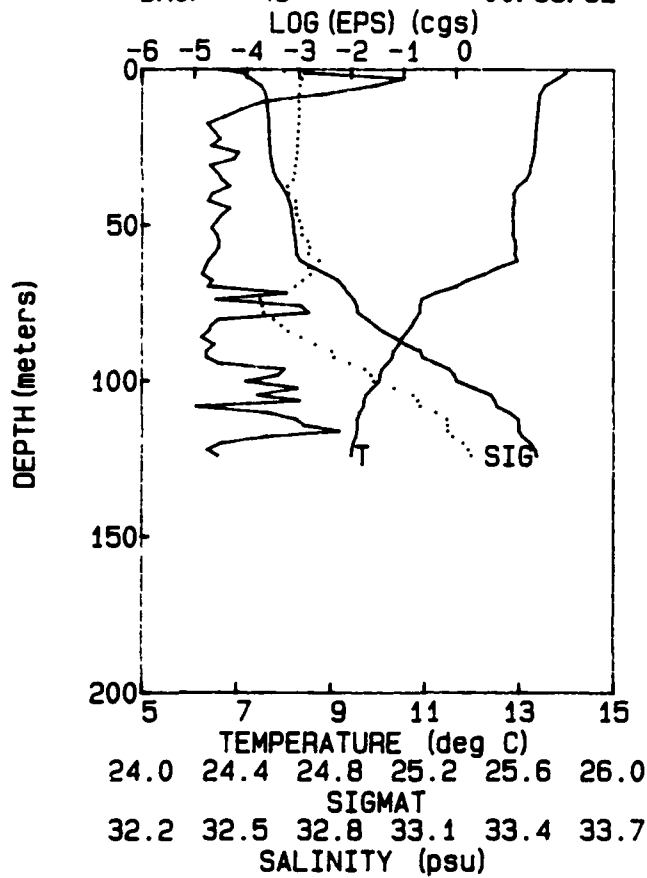


TAPE 143 05-31-87
DROP 40 23: 56: 30

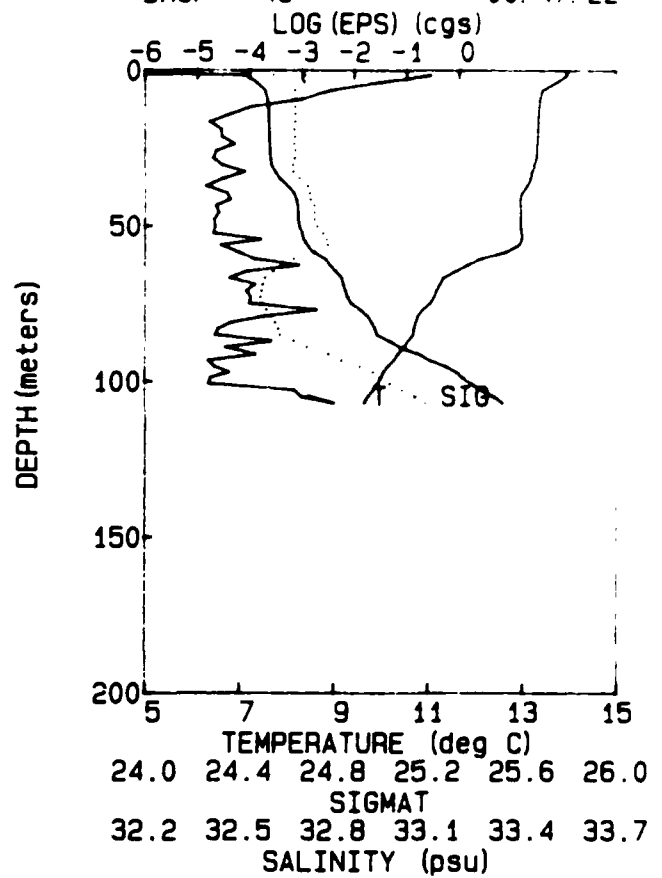




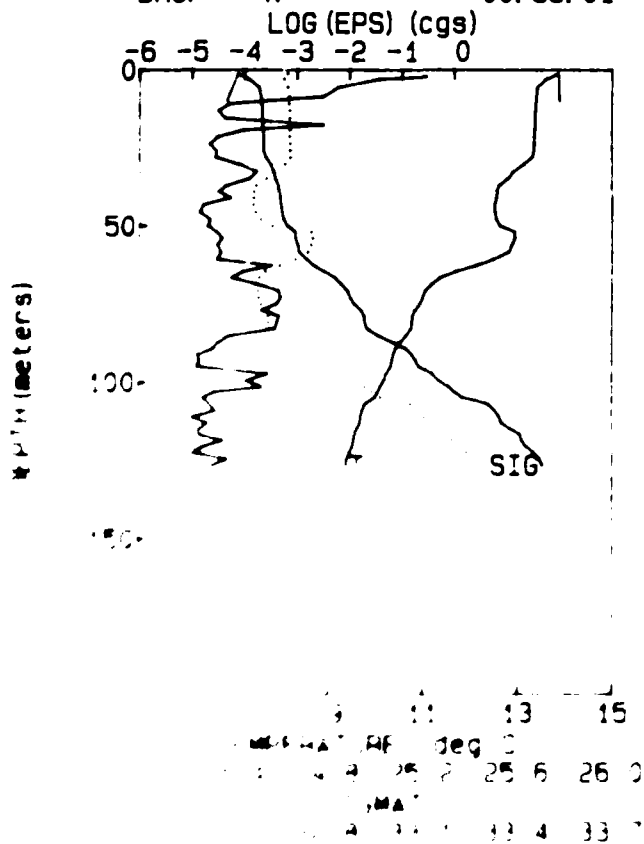
TAPE 143 06-01-87
DROP 45 00:38:52



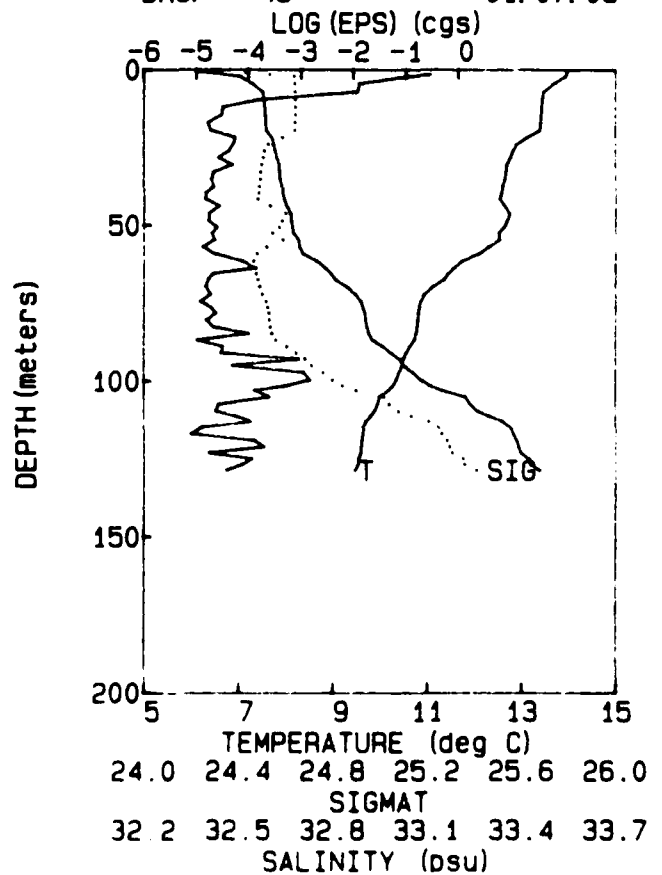
TAPE 143 06-01-87
DROP 46 00:47:22

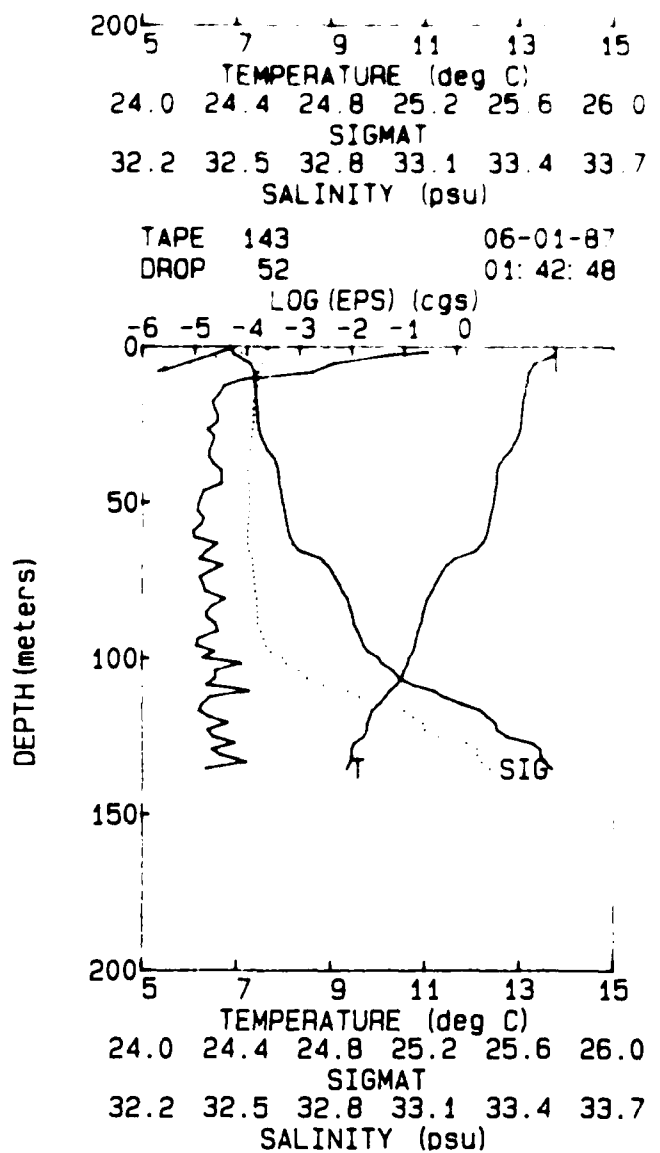
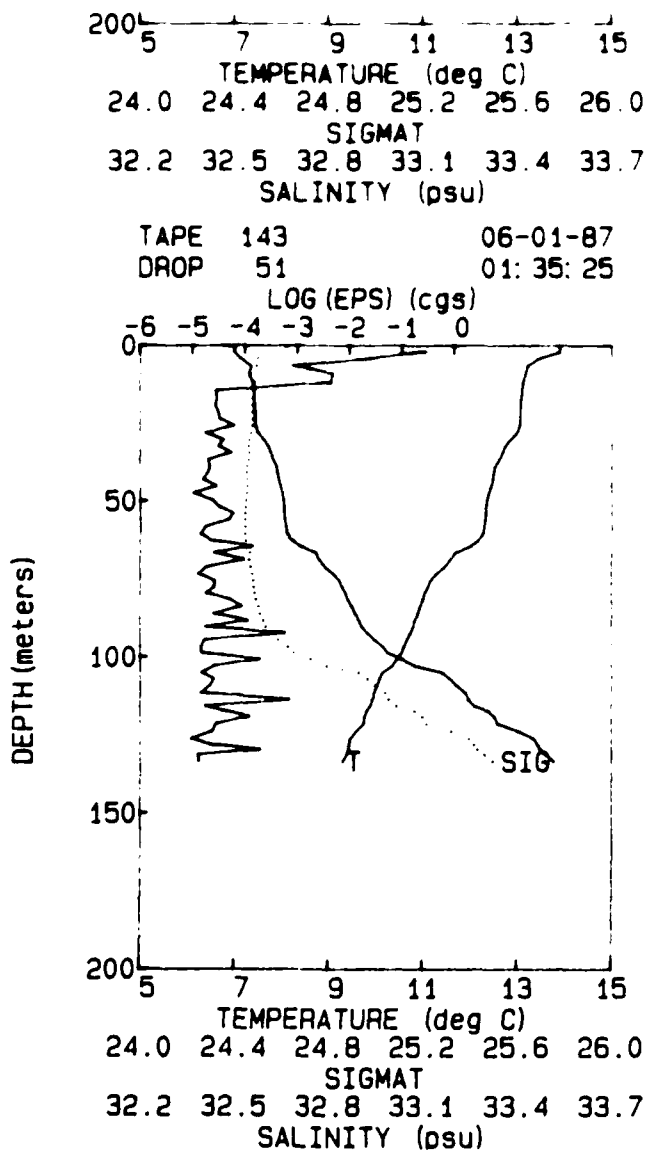
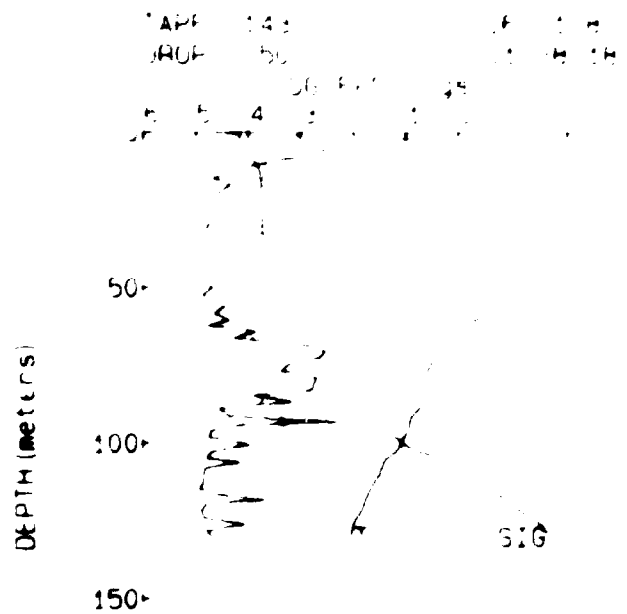
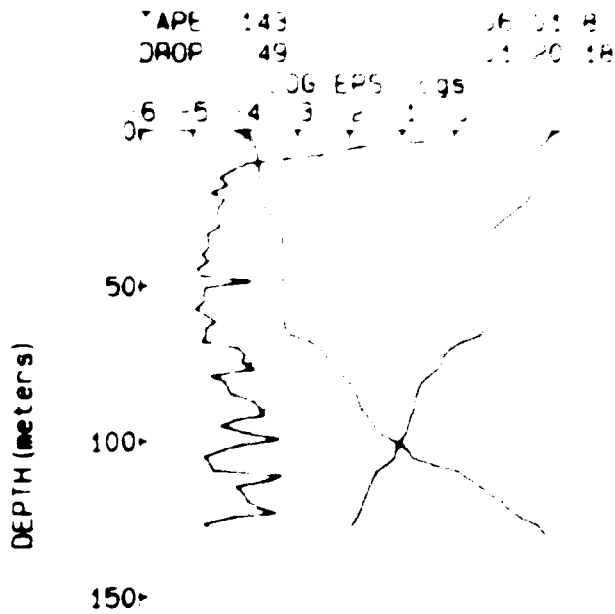


TAPE 143 06-01-87
DROP 47 00:59:01

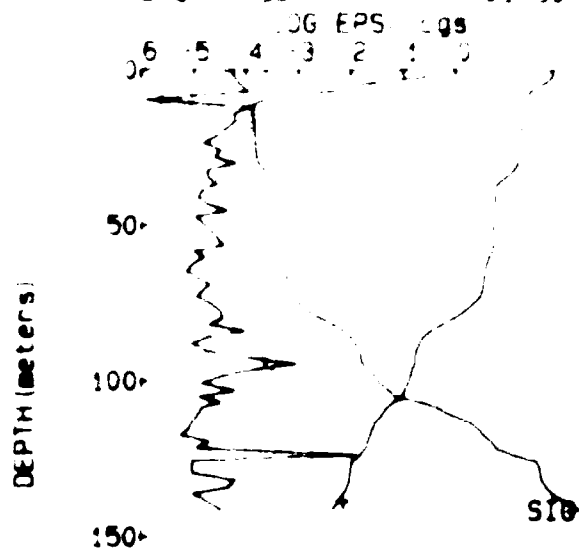


TAPE 143 06-01-87
DROP 48 01:07:03



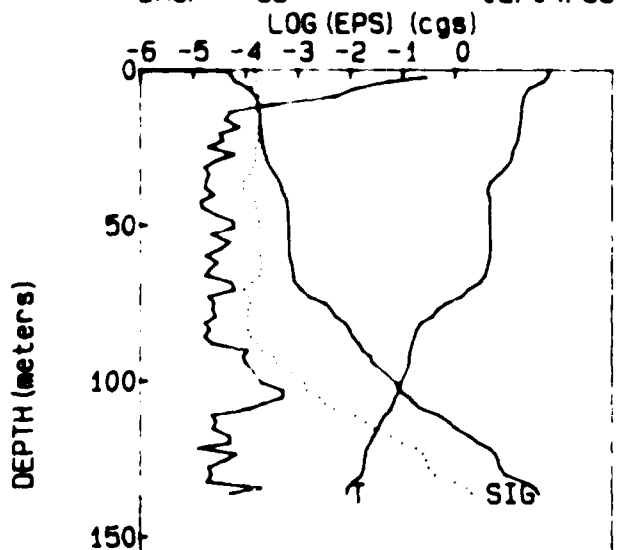


TAPE 143 06 01-87
 DROP 53 01: 50: 04



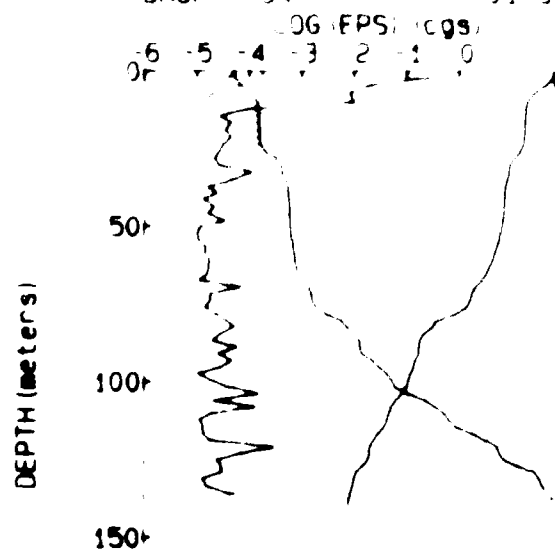
200 5 7 9 11 13 15
 TEMPERATURE (deg C)
 24.0 24.4 24.8 25.2 25.6 26.0
 SIGMAT
 32.2 32.5 32.8 33.1 33.4 33.7
 SALINITY (psu)

TAPE 143 06-01-87
 DROP 55 02: 04: 55



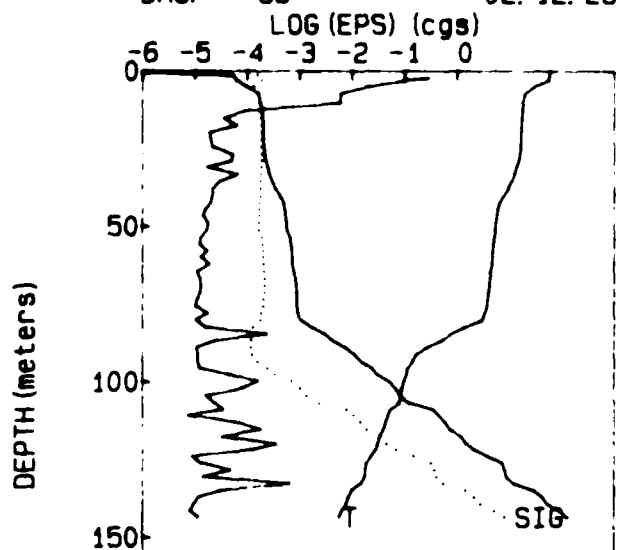
200 5 7 9 11 13 15
 TEMPERATURE (deg C)
 24.0 24.4 24.8 25.2 25.6 26.0
 SIGMAT
 32.2 32.5 32.8 33.1 33.4 33.7
 SALINITY (psu)

TAPE 143 06 01-87
 DROP 54 01: 57: 33



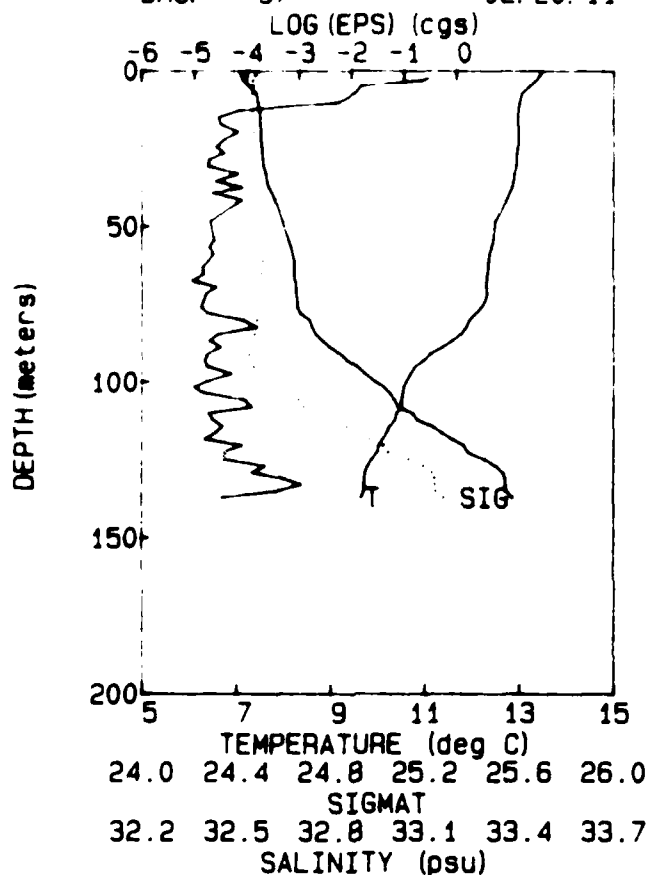
200 5 7 9 11 13 15
 TEMPERATURE (deg C)
 24.0 24.4 24.8 25.2 25.6 26.0
 SIGMAT
 32.2 32.5 32.8 33.1 33.4 33.7
 SALINITY (psu)

TAPE 143 06-01-87
 DROP 56 02: 12: 28

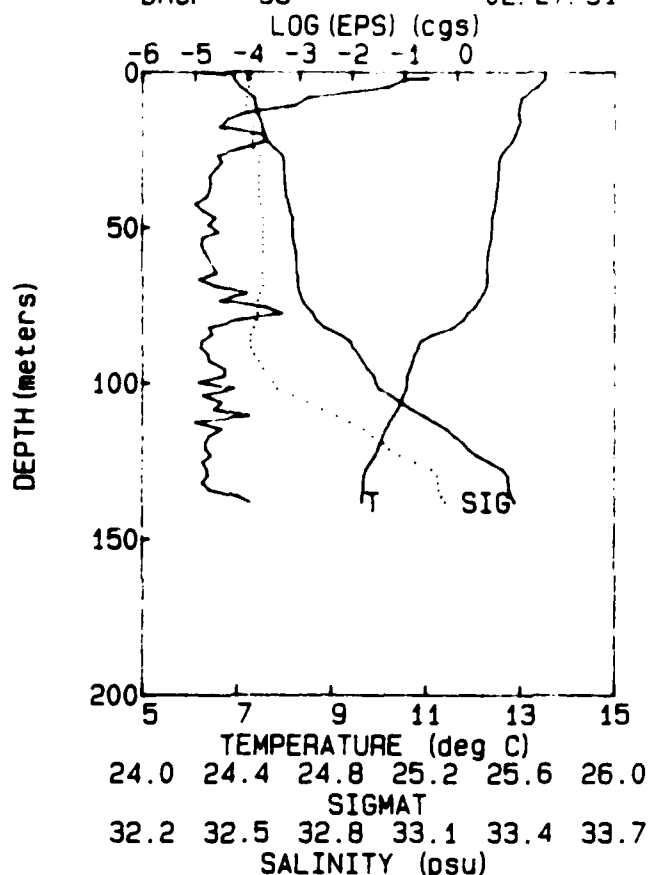


200 5 7 9 11 13 15
 TEMPERATURE (deg C)
 24.0 24.4 24.8 25.2 25.6 26.0
 SIGMAT
 32.2 32.5 32.8 33.1 33.4 33.7
 SALINITY (psu)

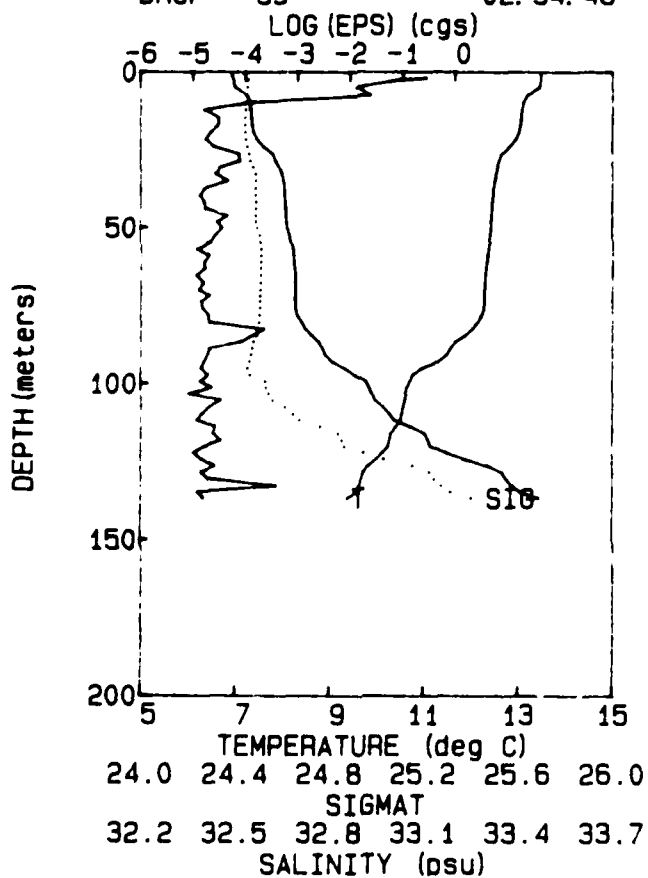
TAPE 143 06-01-87
DROP 57 02:20:11



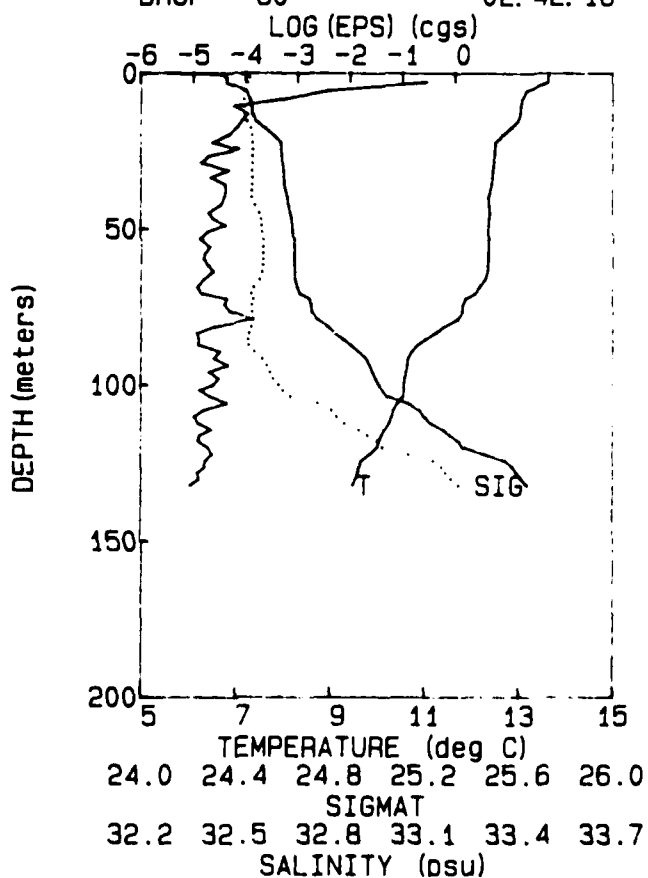
TAPE 143 06-01-87
DROP 58 02:27:31



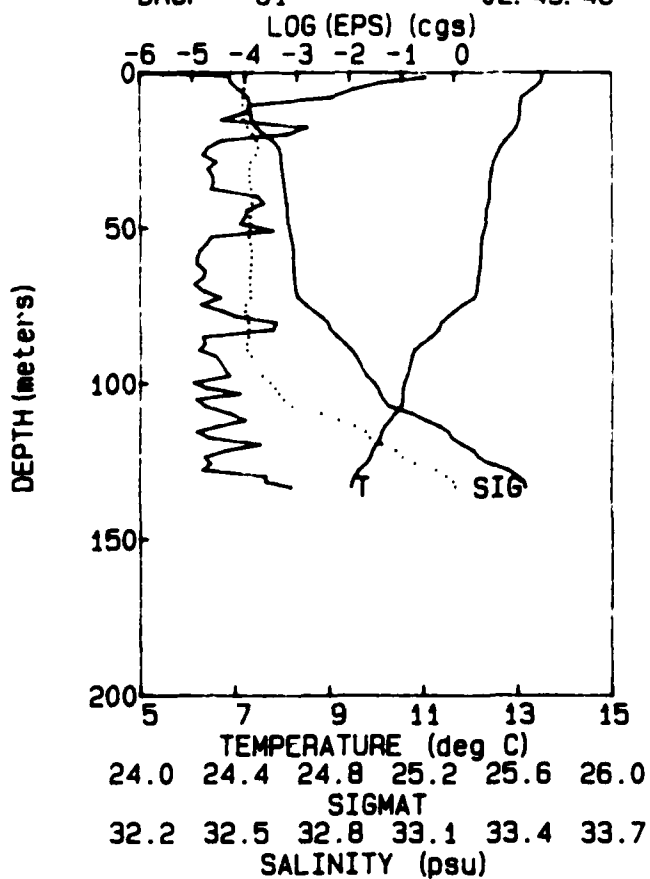
TAPE 143 06-01-87
DROP 59 02:34:48



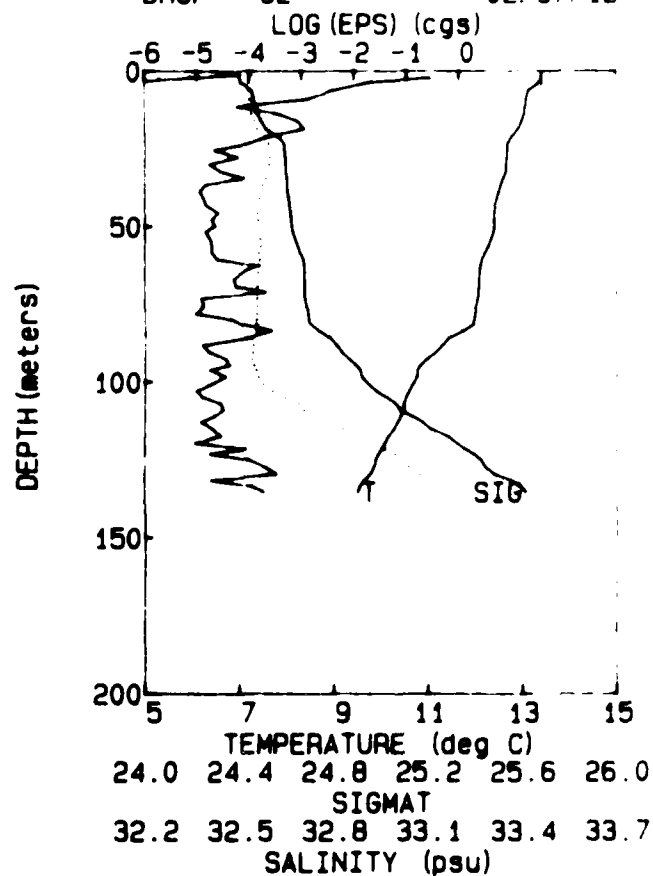
TAPE 143 06-01-87
DROP 60 02:42:16



TAPE 143 06-01-87
 DROP 61 02: 49: 46

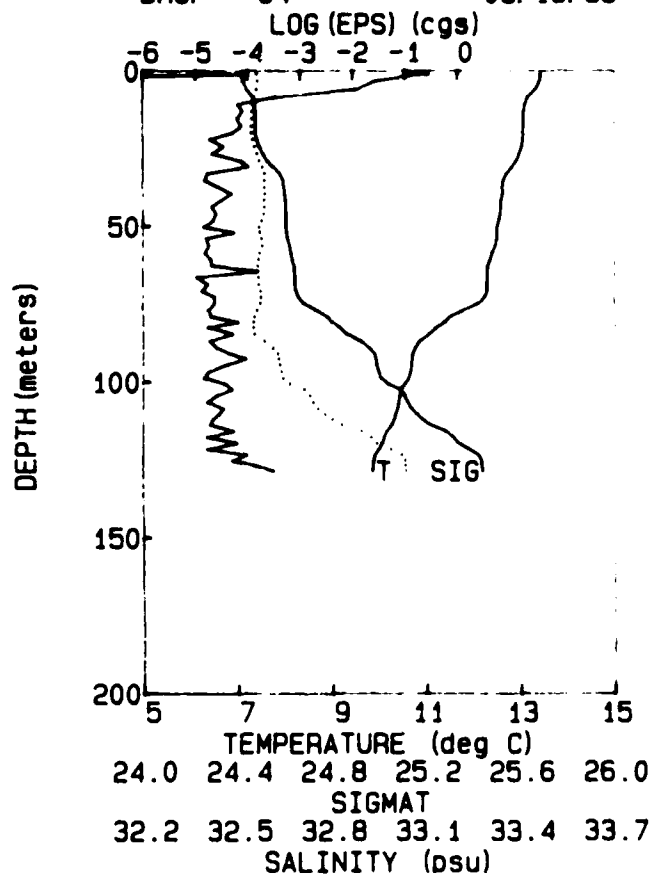


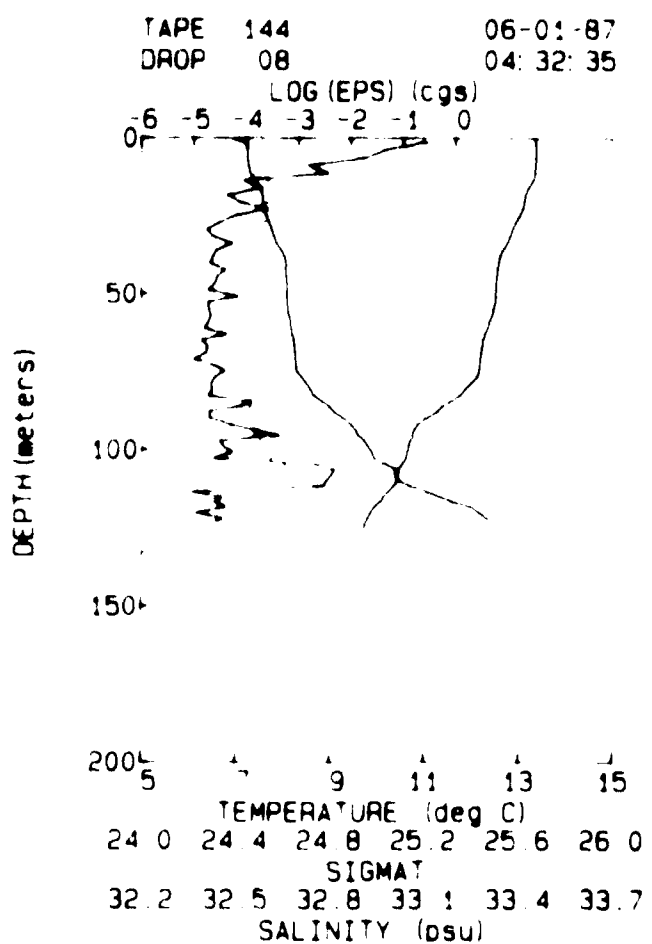
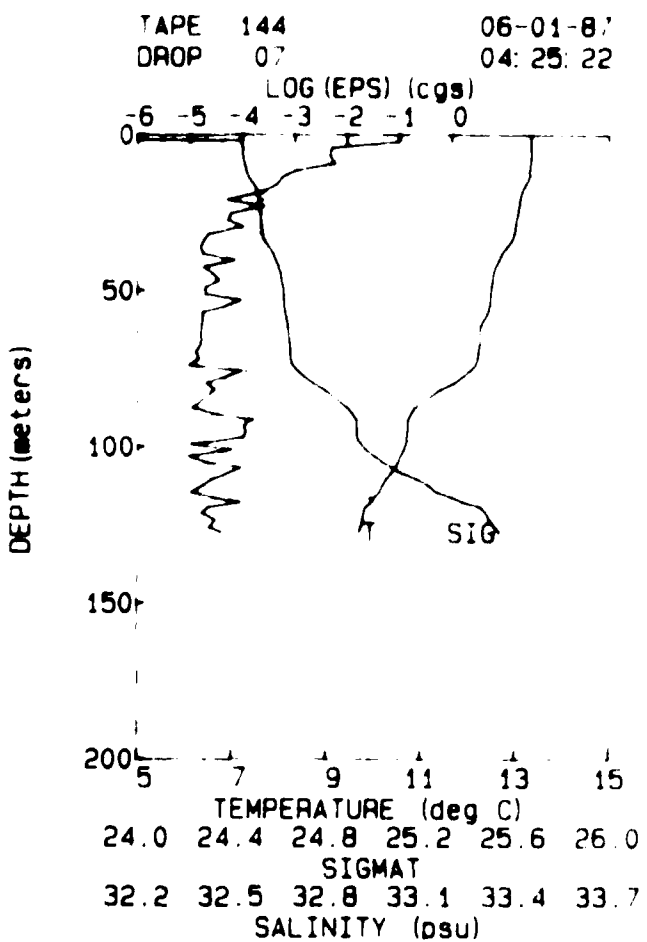
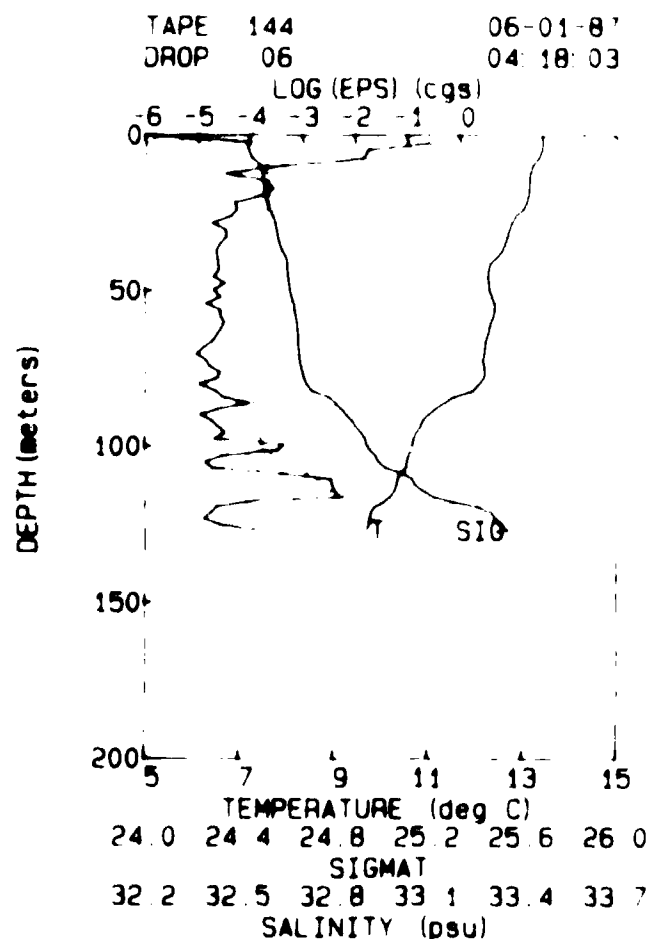
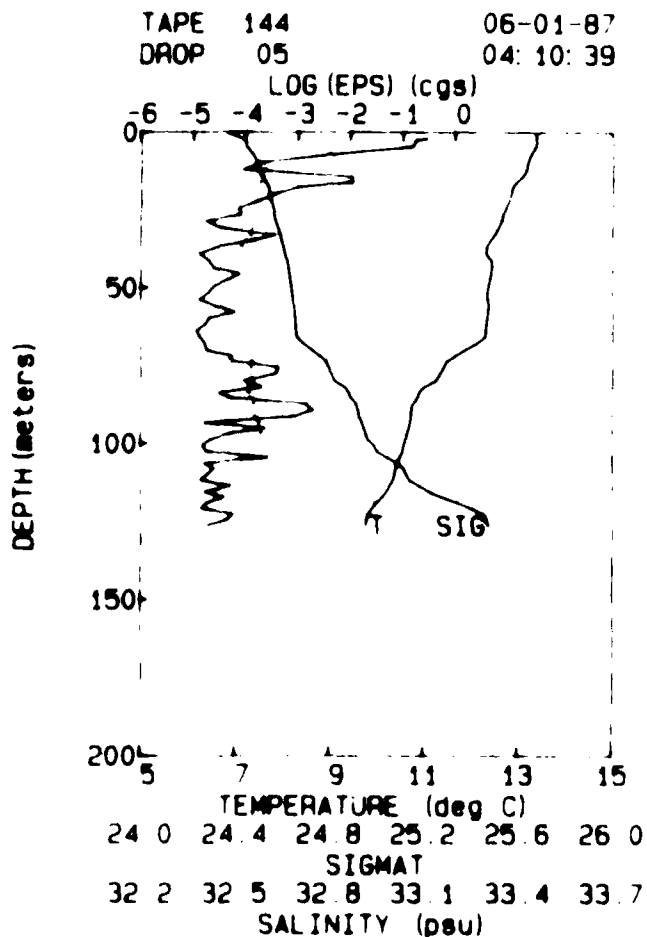
TAPE 143 06-01-87
 DROP 62 02: 57: 12



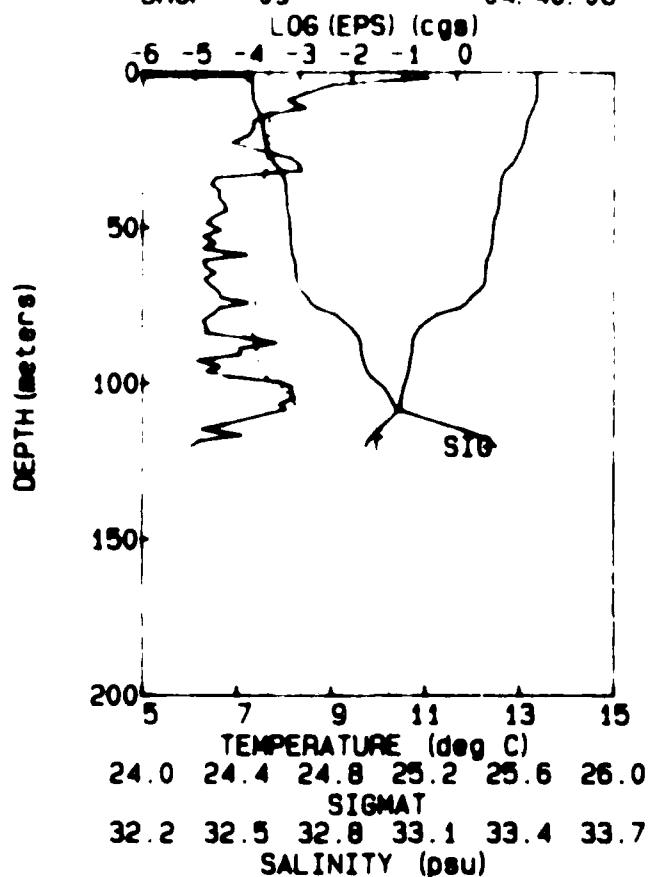
TAPE 143 06-01-87
 DROP 64 03: 18: 55

DEPTH (meters)

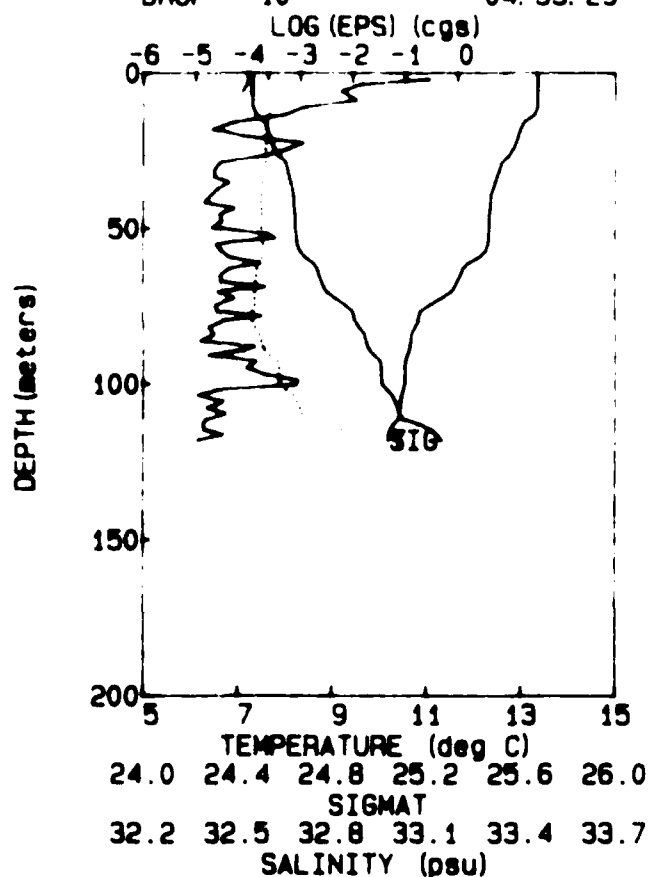




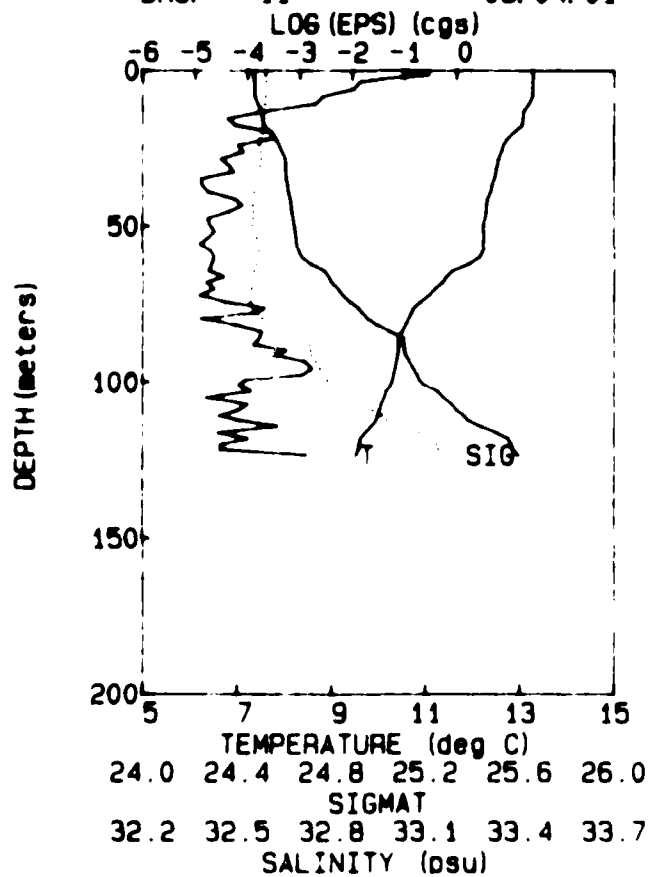
TAPE 144 06-01-87
DROP 09 04:40:06



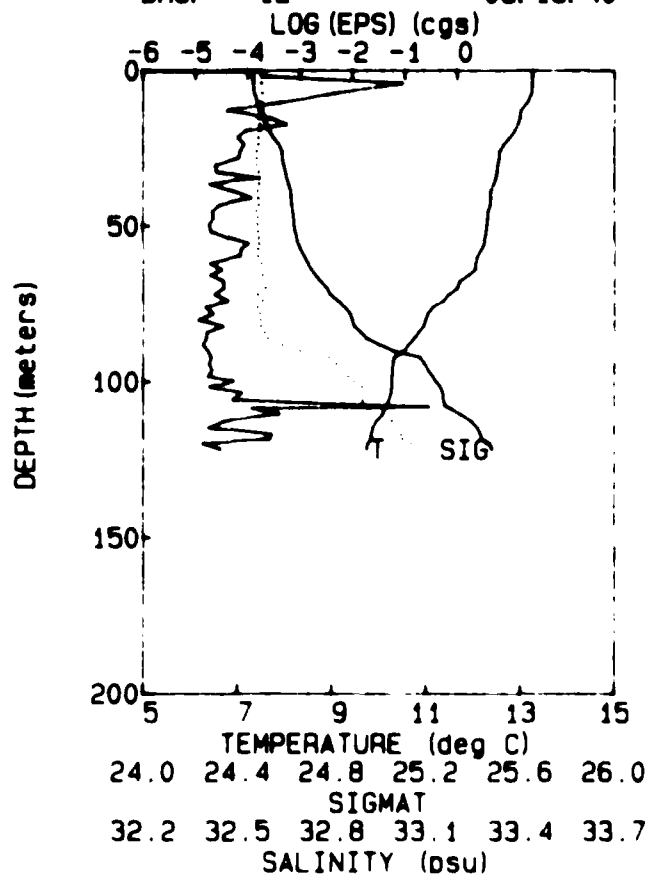
TAPE 144 06-01-87
DROP 10 04:53:29



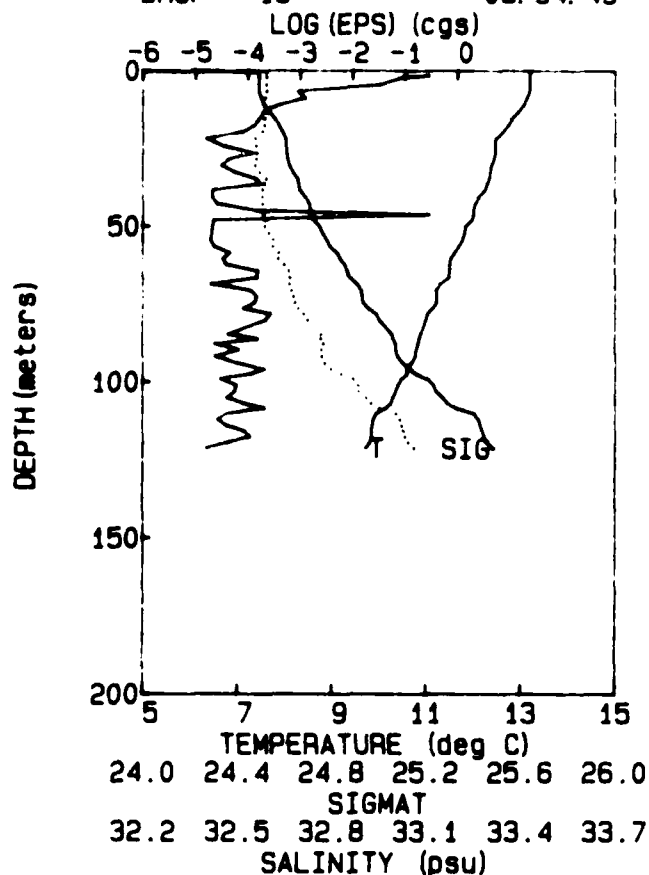
TAPE 144 06-01-87
DROP 11 05:04:01



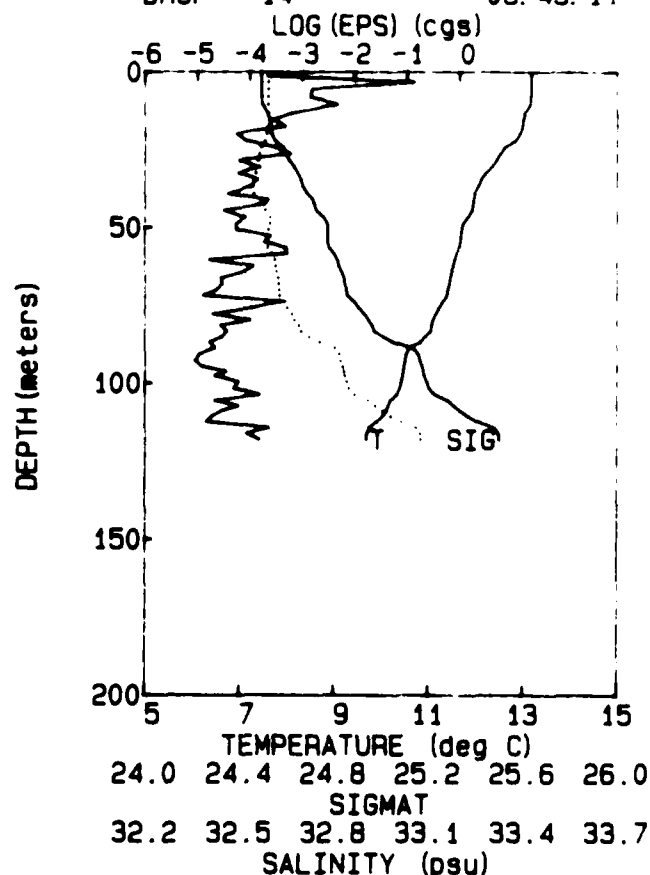
TAPE 144 06-01-87
DROP 12 05:16:40



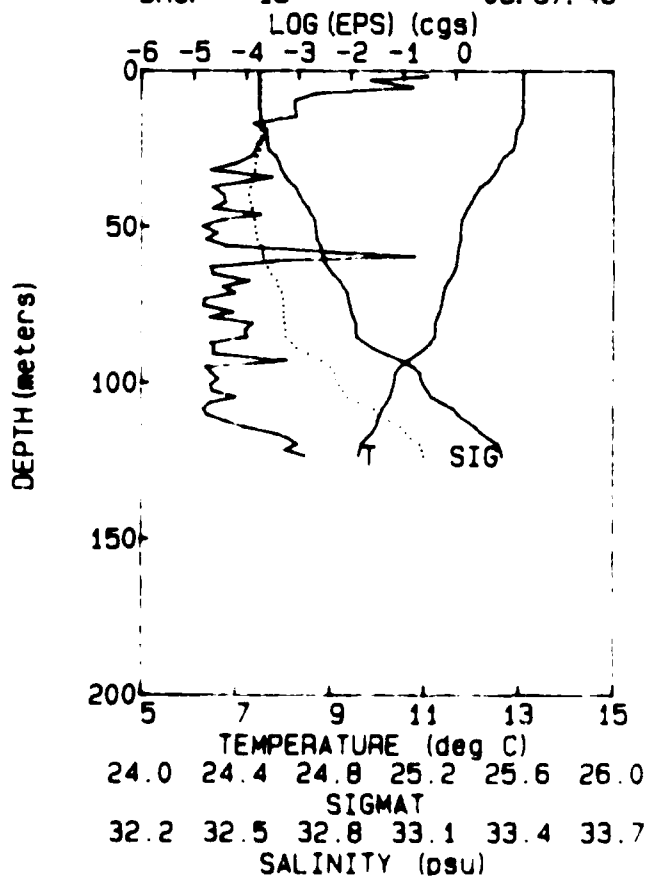
TAPE 144 06-01-87
DROP 13 05:34:49



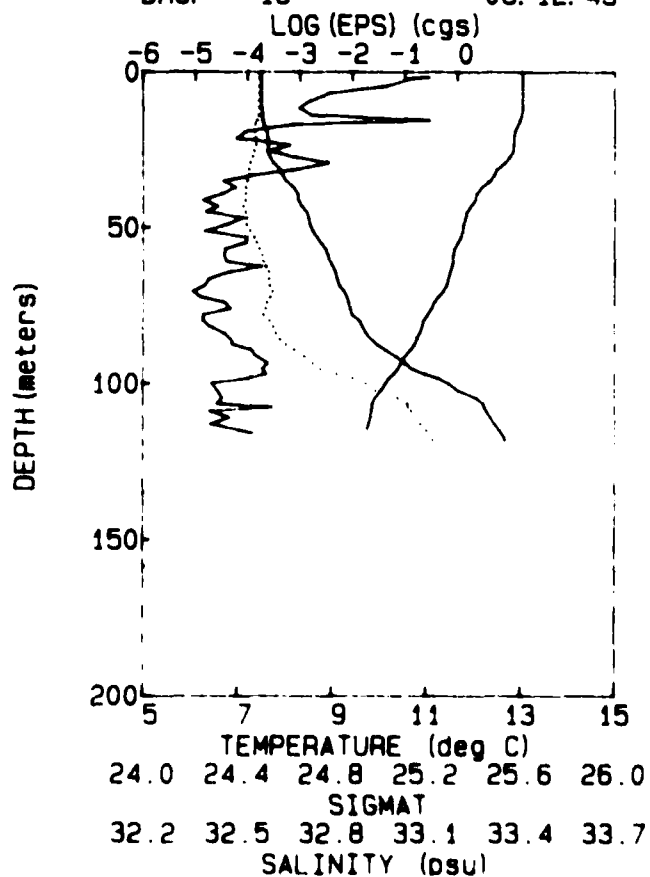
TAPE 144 06-01-87
DROP 14 05:45:11



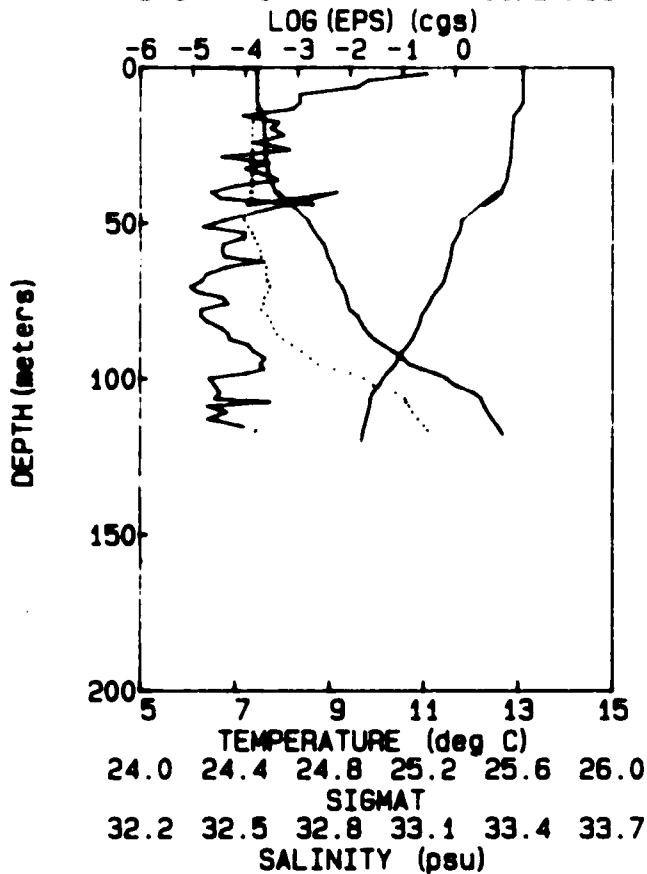
TAPE 144 06-01-87
DROP 15 05:57:46



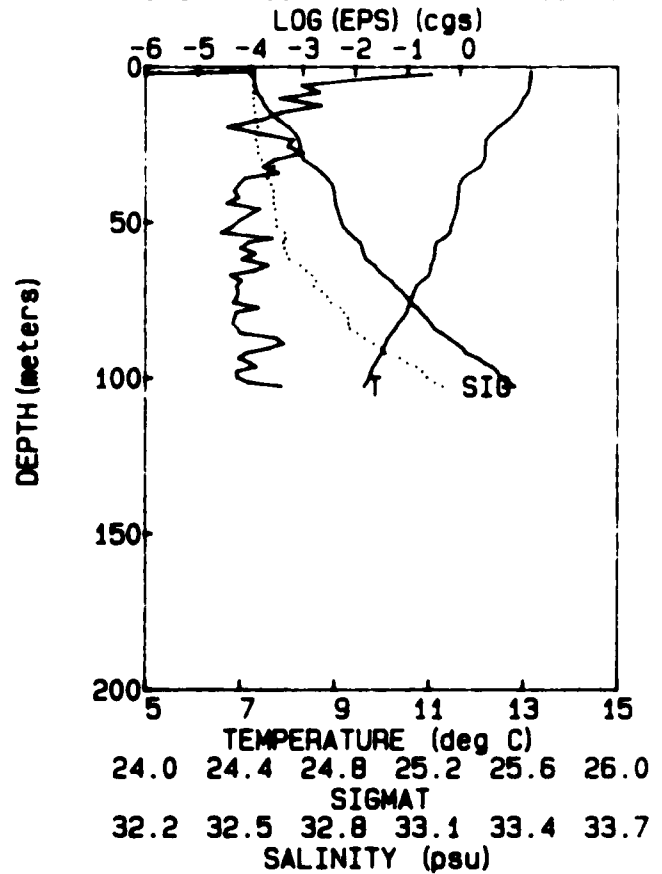
TAPE 144 06-01-87
DROP 16 06:12:43



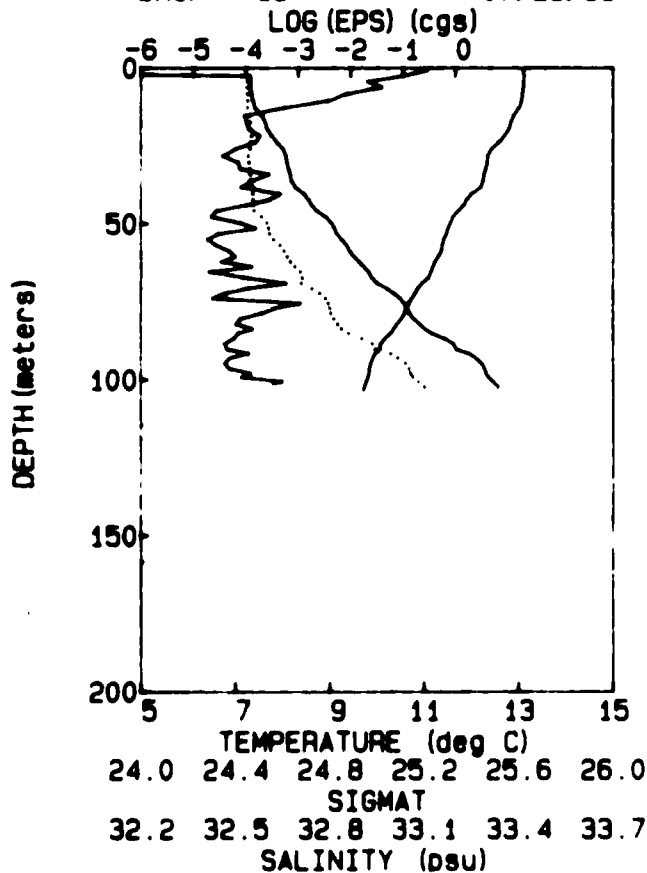
TAPE 144 06-01-87
DROP 17 06: 24: 31



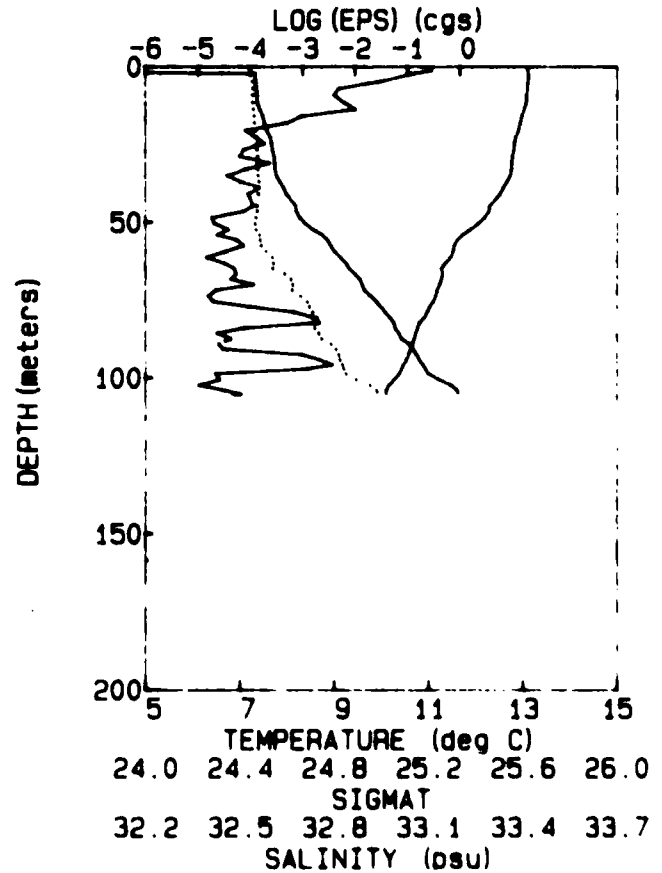
TAPE 144 06-01-87
DROP 18 07: 19: 02



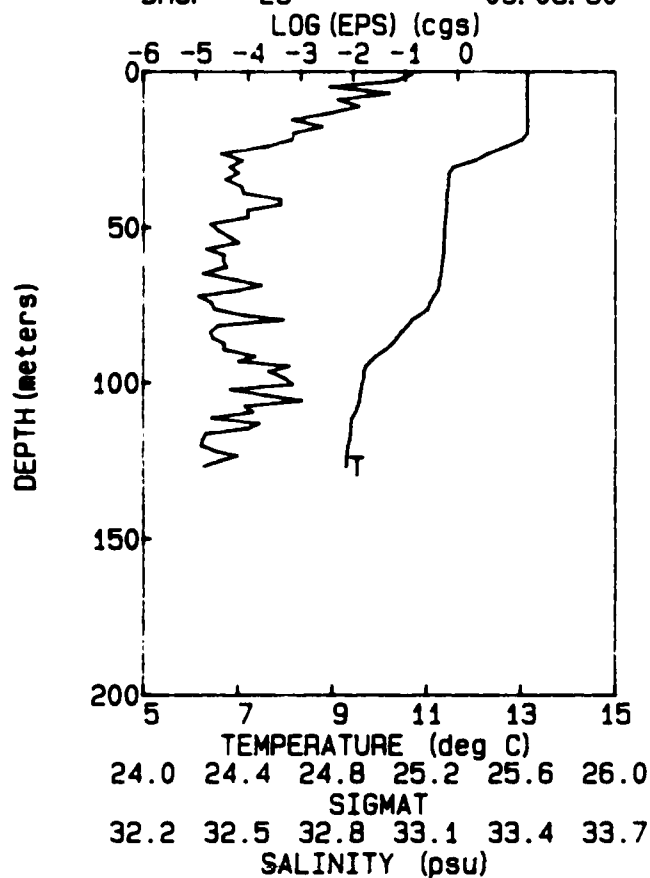
TAPE 144 06-01-87
DROP 19 07: 29: 31



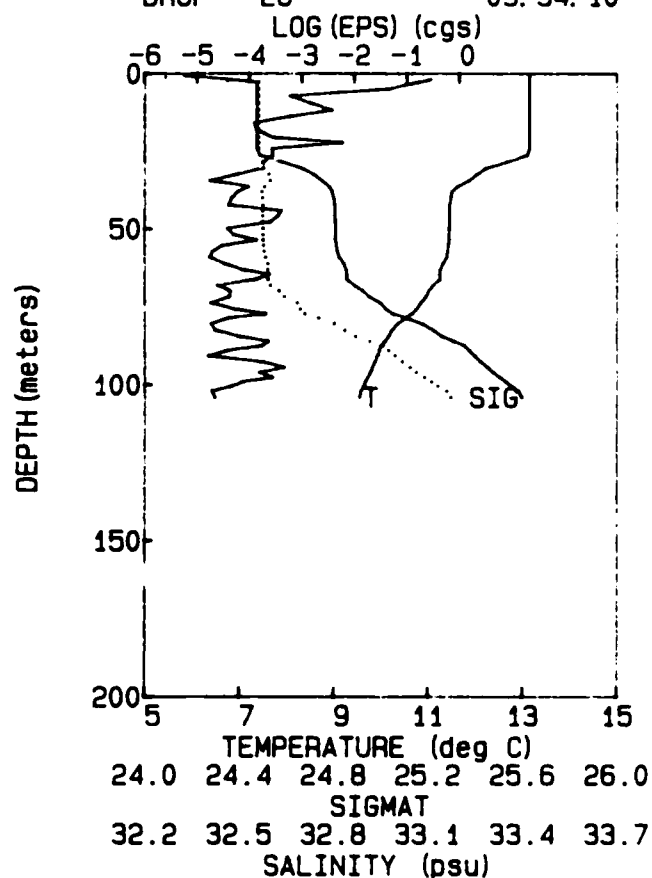
TAPE 144 06-01-87
DROP 20 07: 36: 54



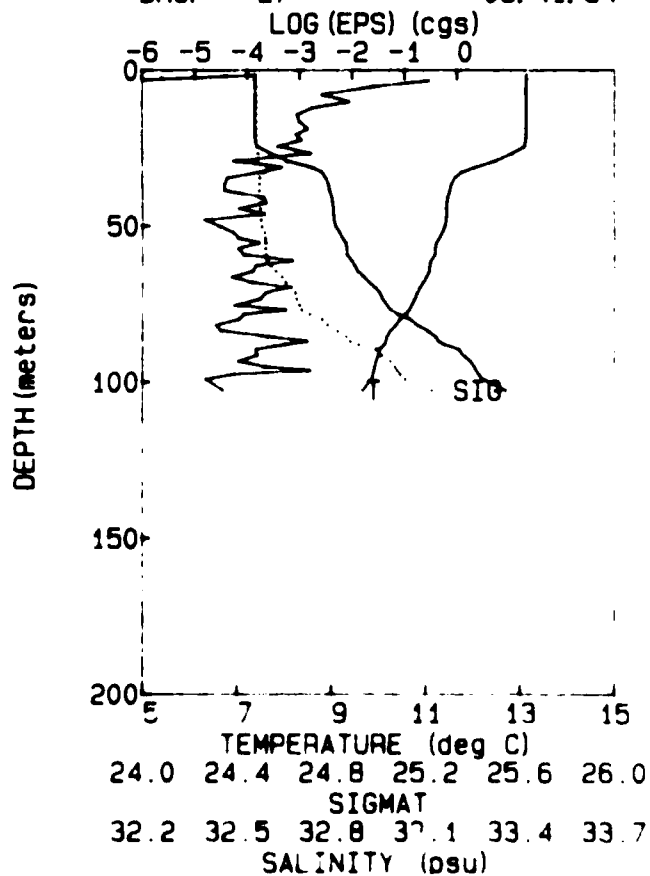
TAPE 144 06-01-87
DROP 25 09: 05: 50



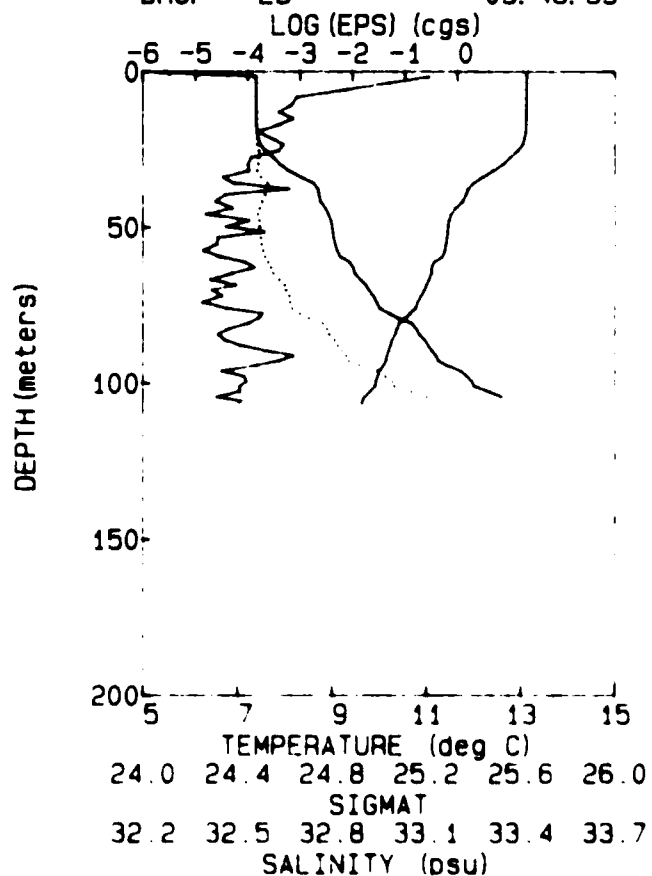
TAPE 144 06-01-87
DROP 26 09: 34: 10



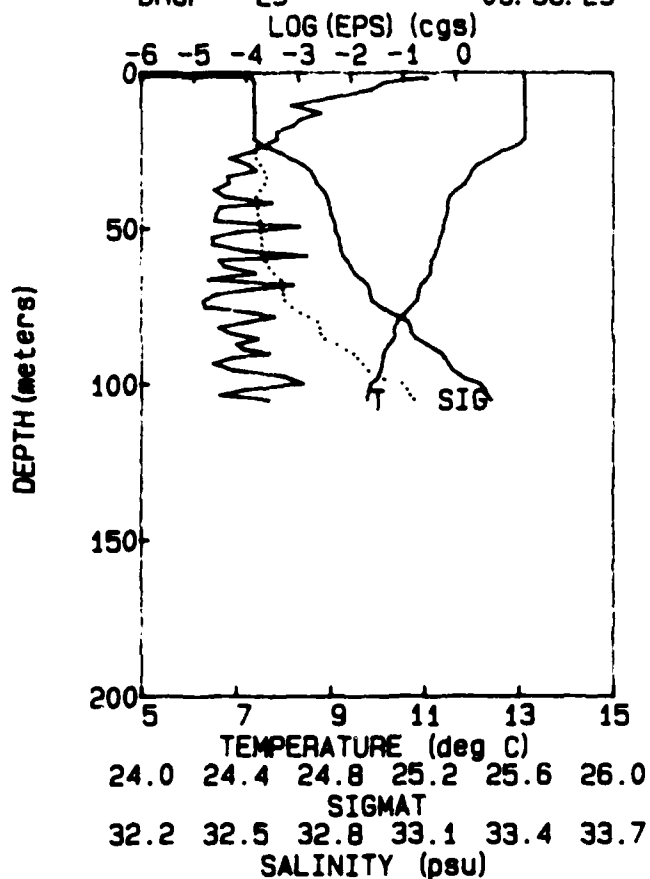
TAPE 144 06-01-87
DROP 27 09: 41: 34



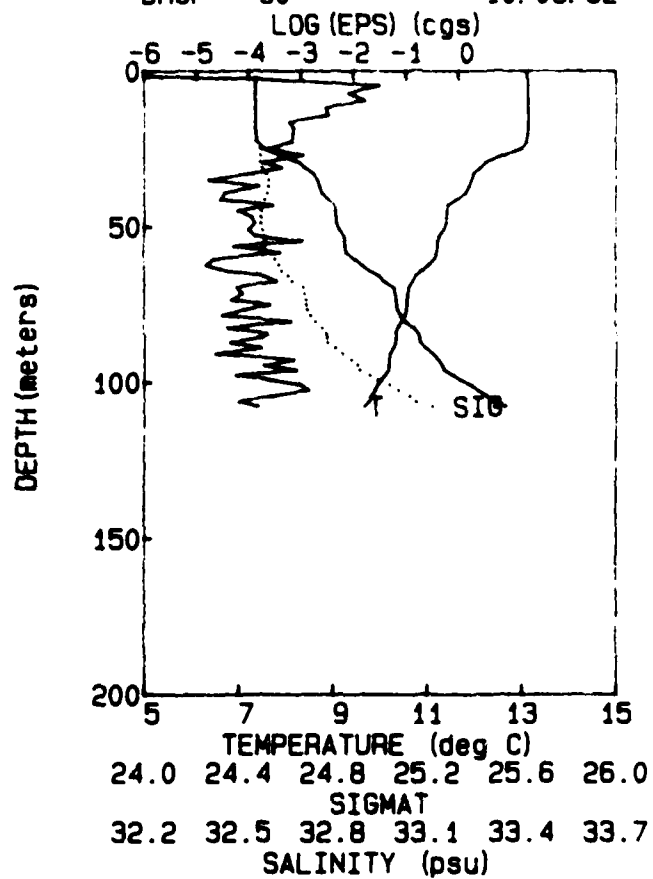
TAPE 144 06-01-87
DROP 28 09: 48: 59



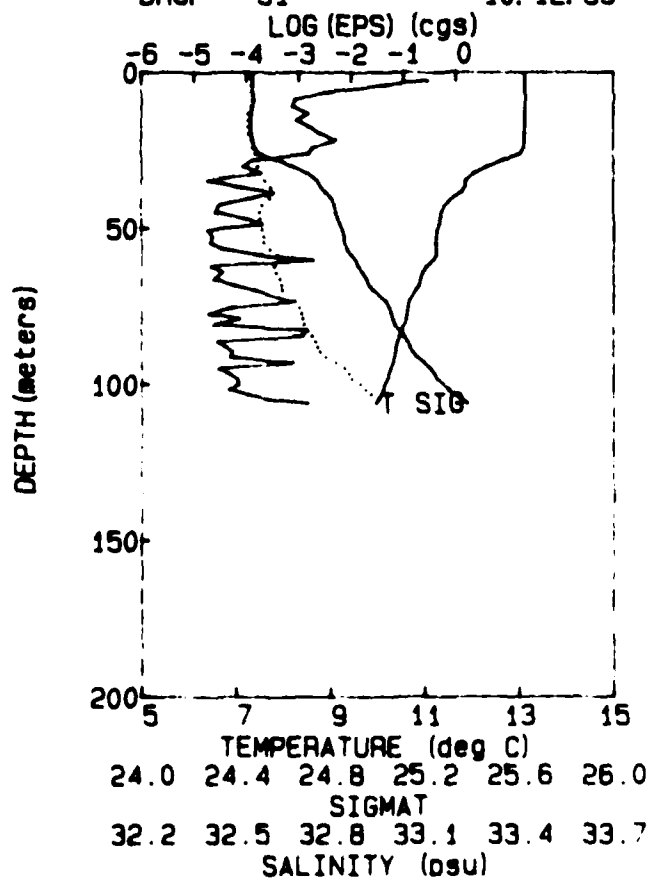
TAPE 144 06-01-87
DROP 29 09:56:29



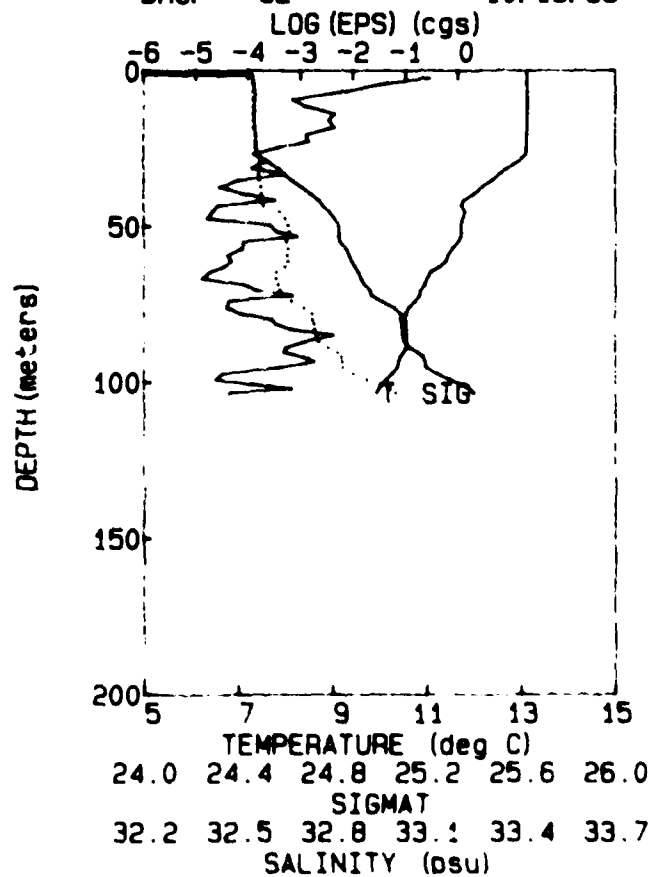
TAPE 144 06-01-87
DROP 30 10:05:32

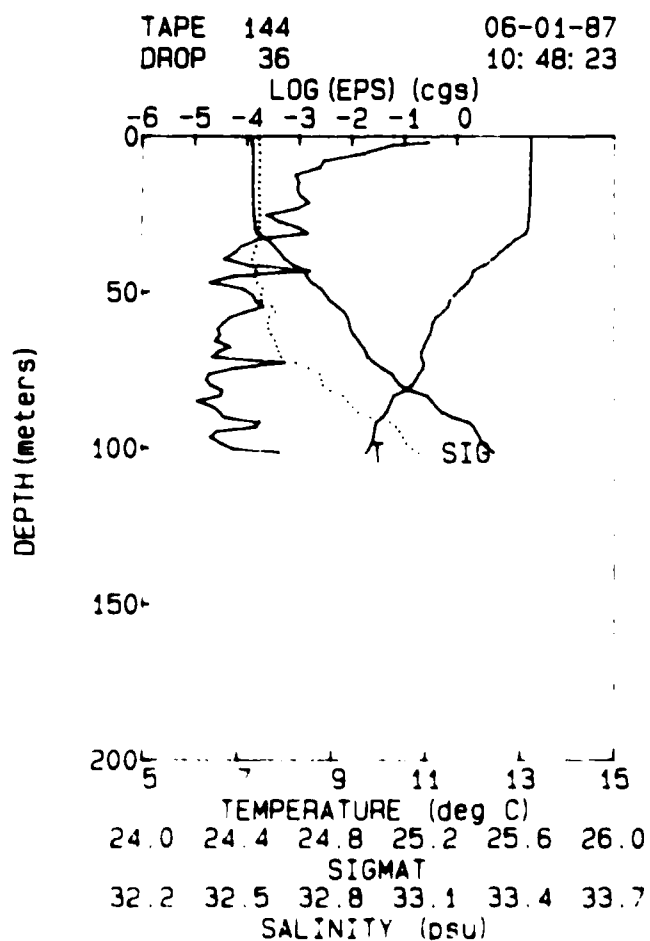
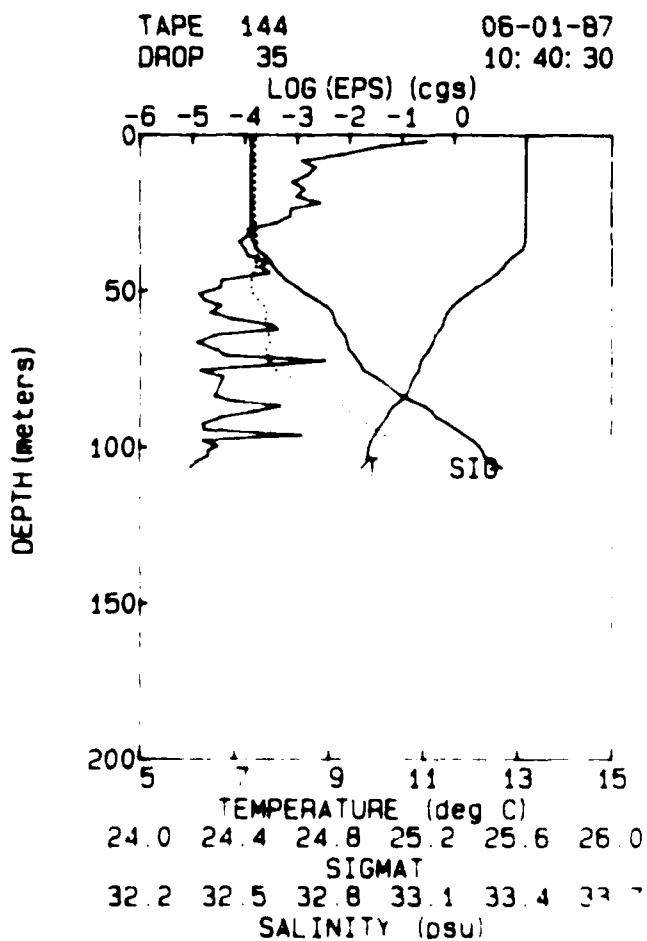
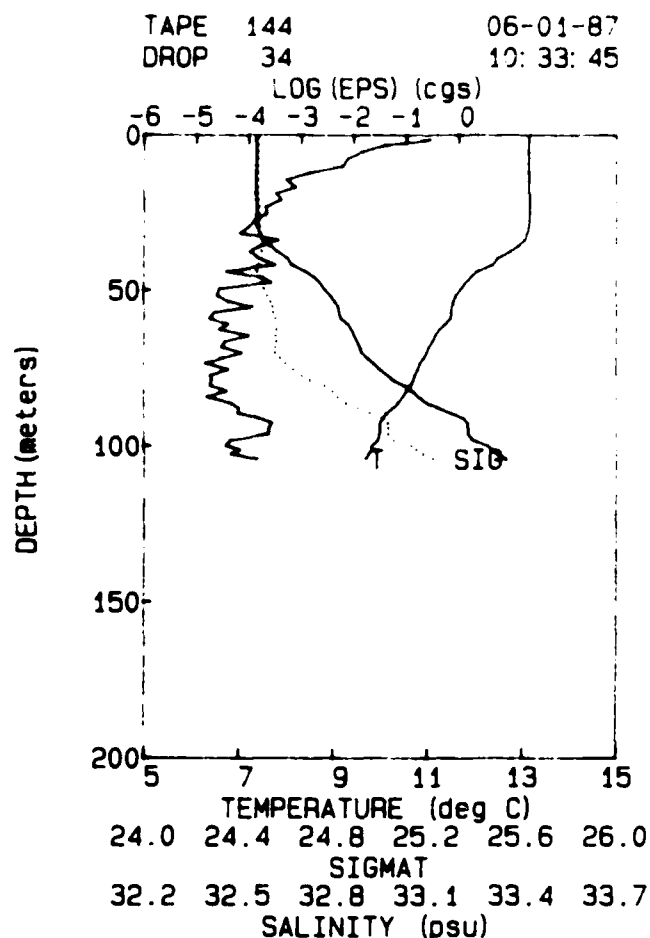
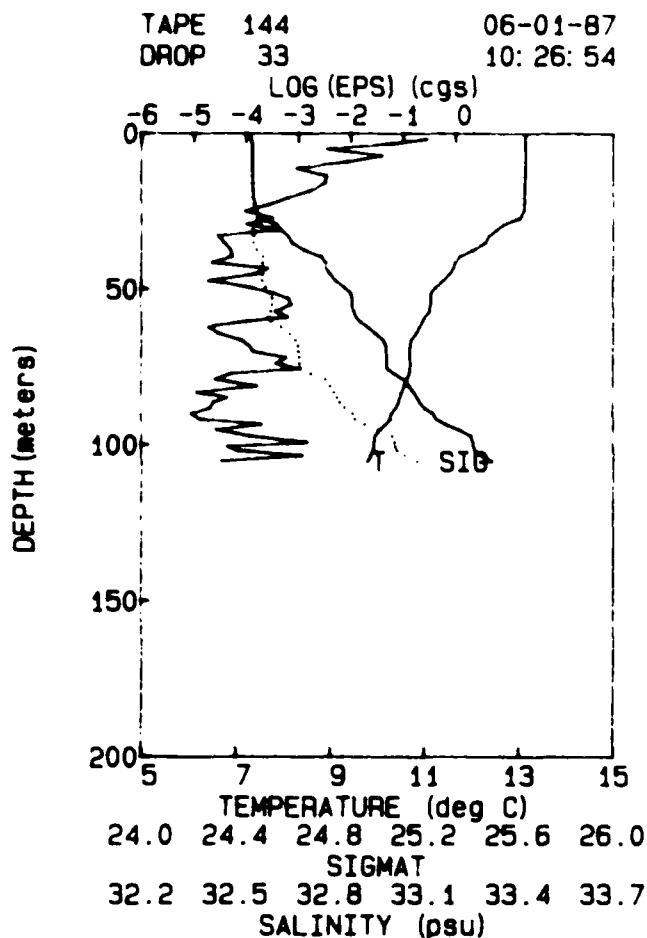


TAPE 144 06-01-87
DROP 31 10:12:59

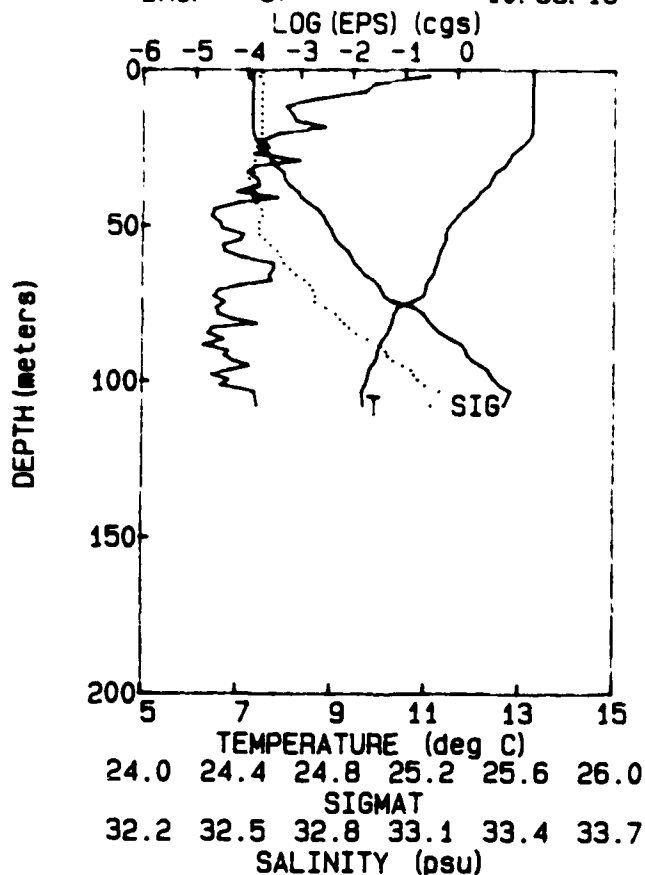


TAPE 144 06-01-87
DROP 32 10:19:58

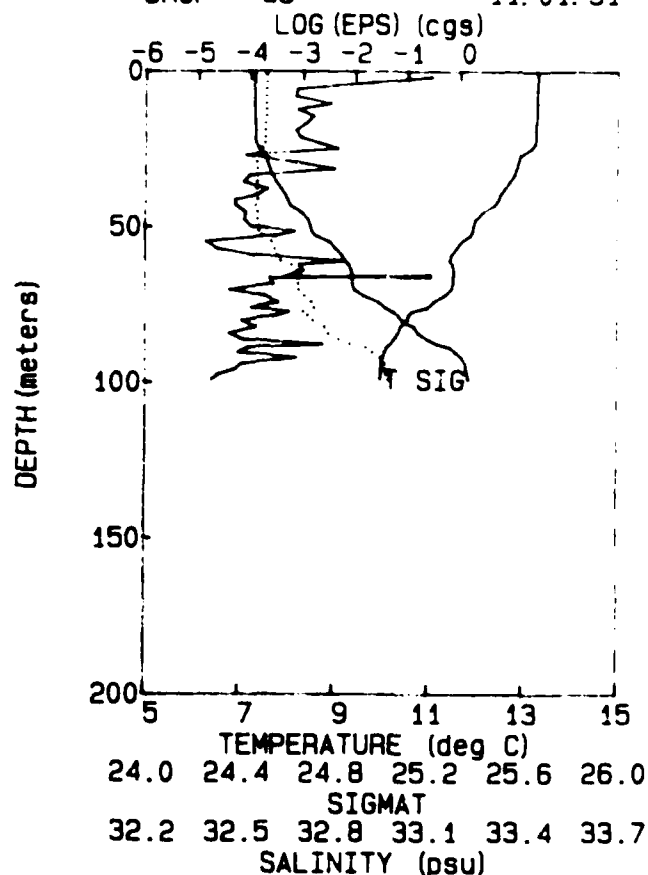




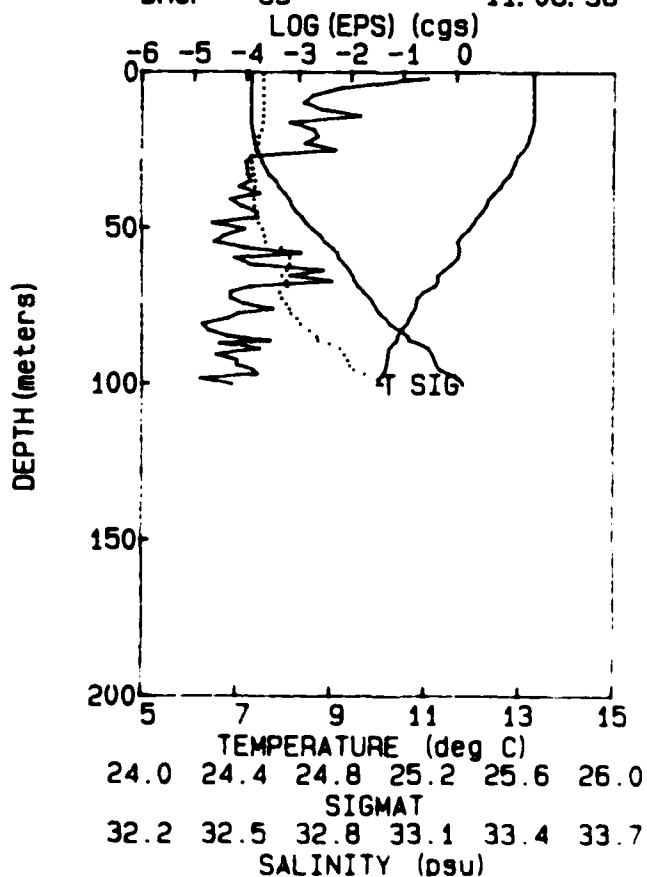
TAPE 144 06-01-87
 DROP 37 10:55:16



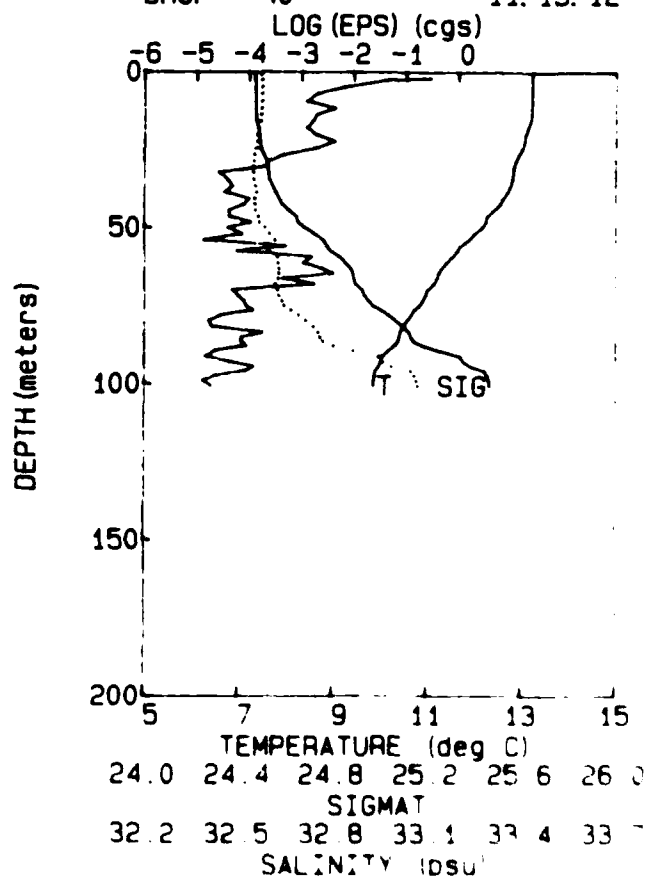
TAPE 144 06-01-87
 DROP 38 11:01:51



TAPE 144 06-01-87
 DROP 39 11:08:36

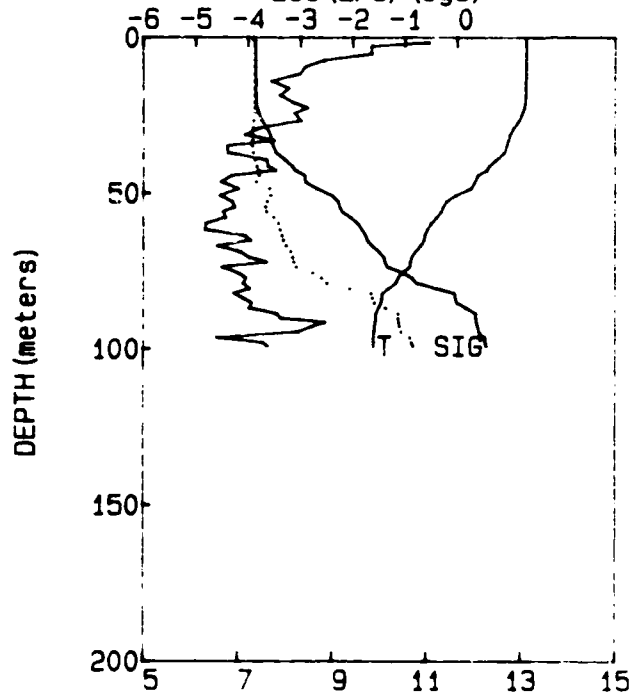


TAPE 144 06-01-87
 DROP 40 11:15:12



TAPE 144 06-01-87
DROP 41 11:21:45

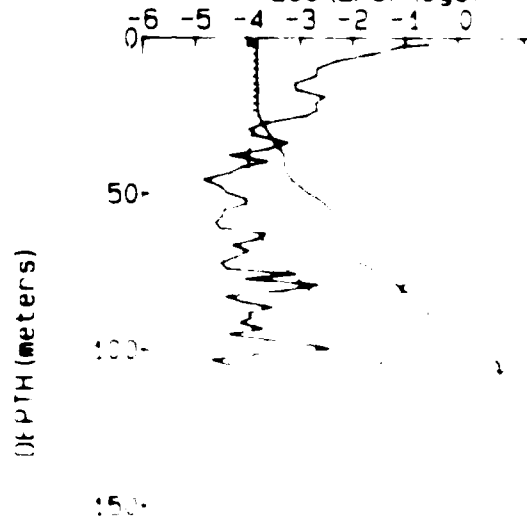
LOG (EPS) (cgs)



TEMPERATURE (deg C)
24.0 24.4 24.8 25.2 25.6 26.0
SIGMAT
32.2 32.5 32.8 33.1 33.4 33.7
SALINITY (psu)

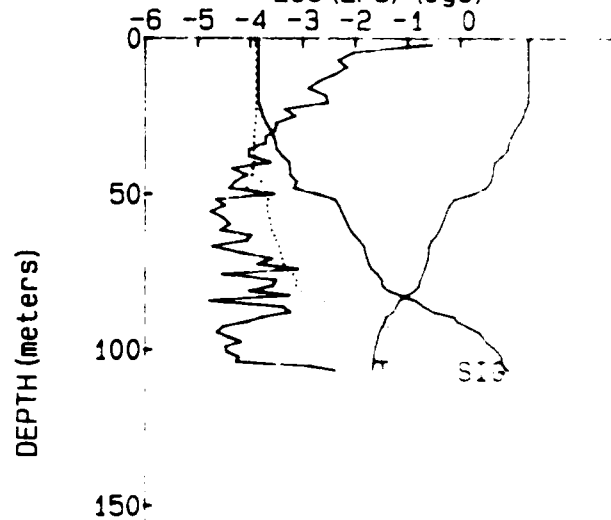
TAPE 144 06-01-87
DROP 43 11:35:04

LOG (EPS) (cgs)



TAPE 144 06-01-87
DROP 42 11:28:17

LOG (EPS) (cgs)



TEMPERATURE (deg C)
24.0 24.4 24.8 25.2 25.6 26.0
SIGMAT
32.2 32.5 32.8 33.1 33.4 33.7
SALINITY (psu)

TAPE 144 06-01-87
DROP 42 11:28:17

LOG (EPS) (cgs)

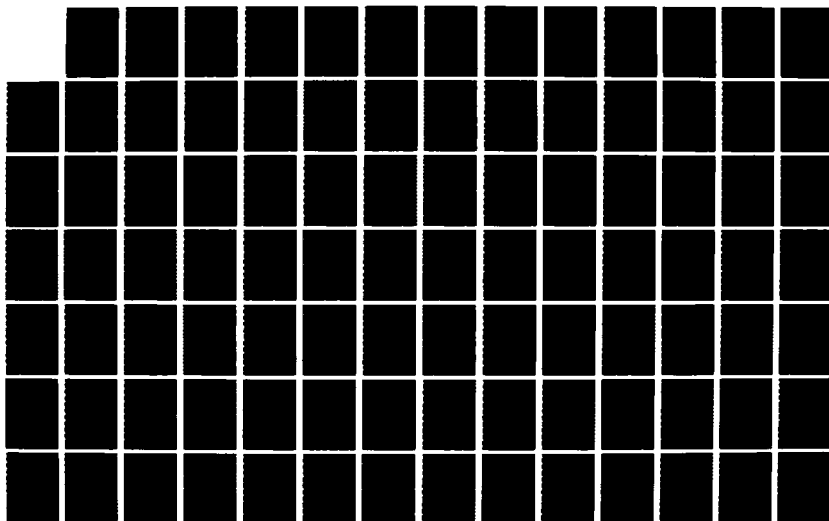
AD-A182 961

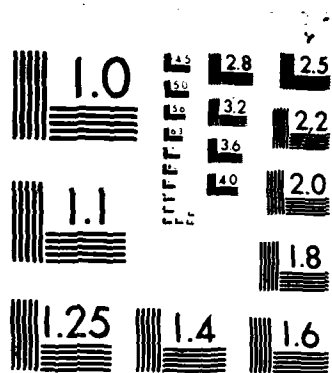
COASTAL TRANSITION ZONE PILOT - 1987- RAPID SAMPLING
VERTICAL PROFILER DB (U) OREGON STATE UNIV CORVALLIS
COLL OF OCEANOGRAPHY M M PARK ET AL JUN 87 DATA-135
N00014-87-K-0242 F/G 8/3

2/4

UNCLASSIFIED

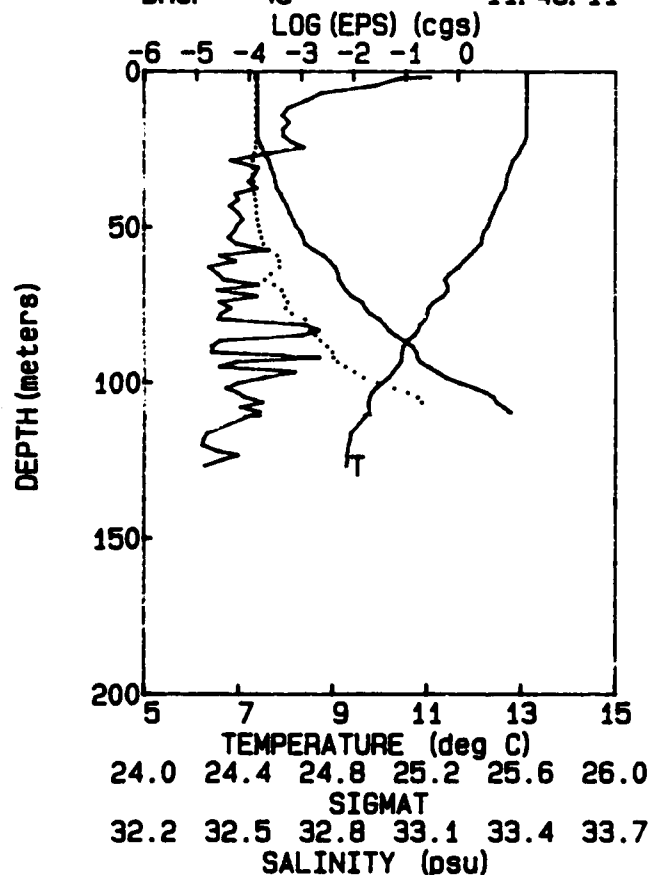
NL



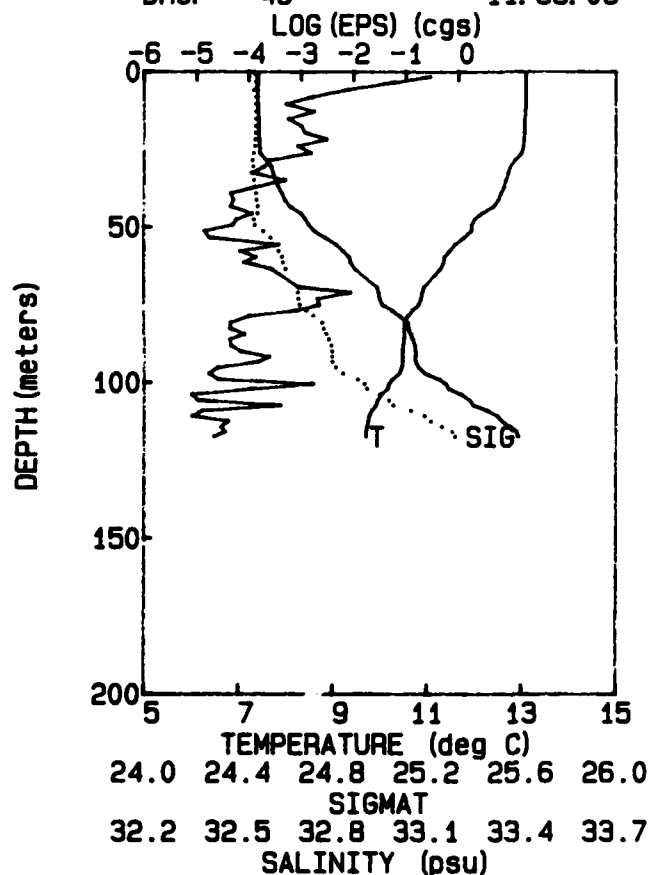


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963 A

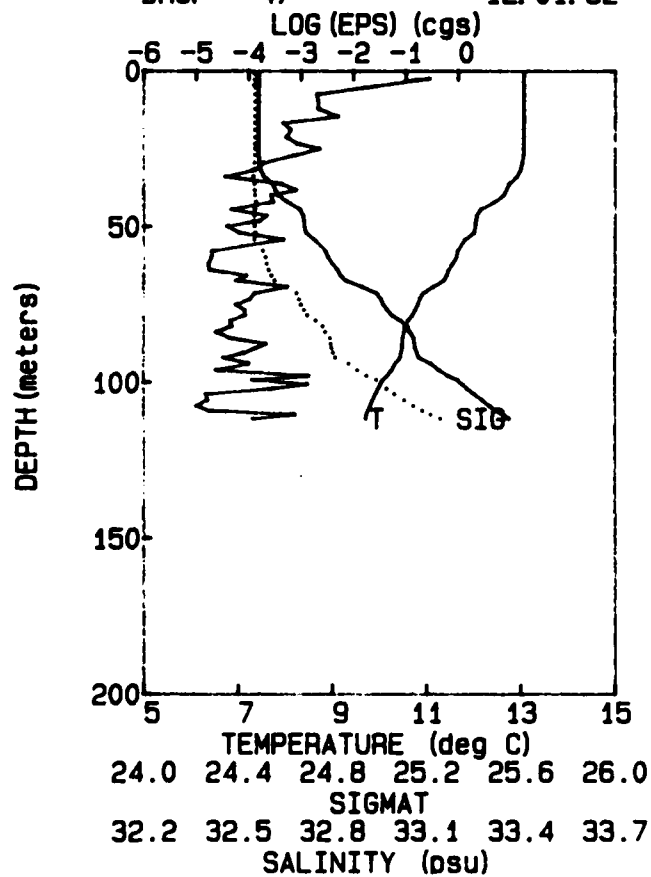
TAPE 144 06-01-87
DROP 45 11:48:11



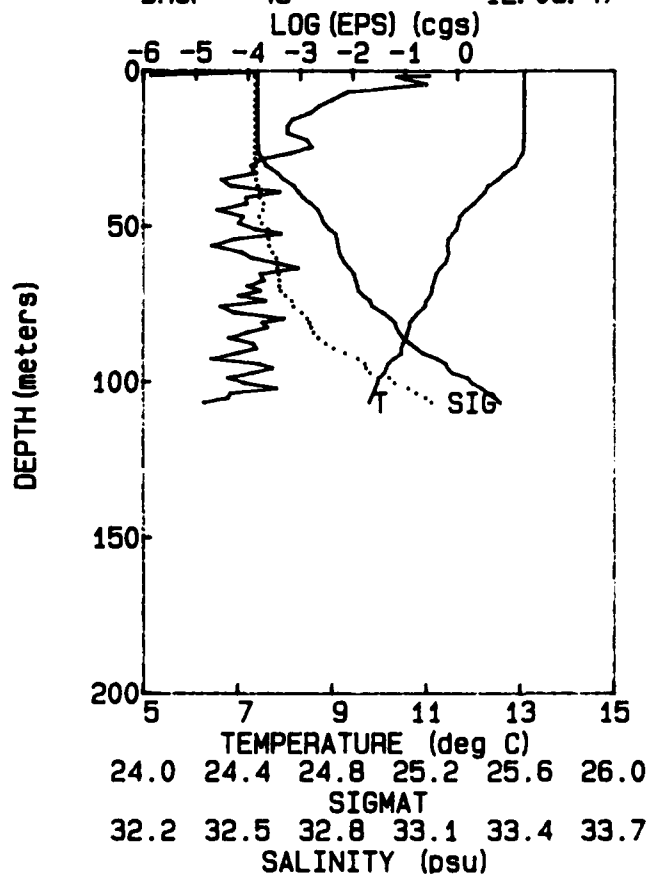
TAPE 144 06-01-87
DROP 46 11:55:06



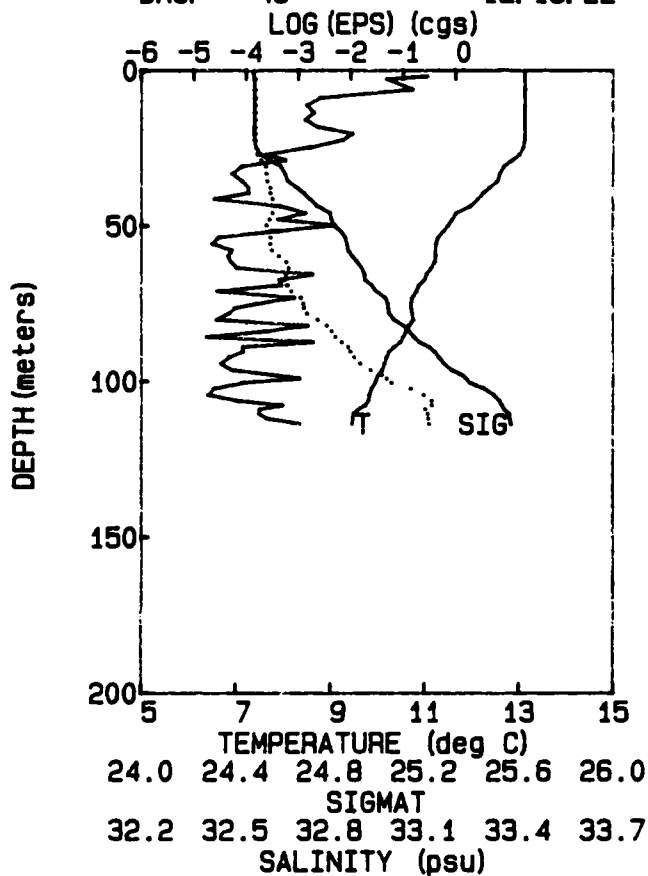
TAPE 144 06-01-87
DROP 47 12:01:52



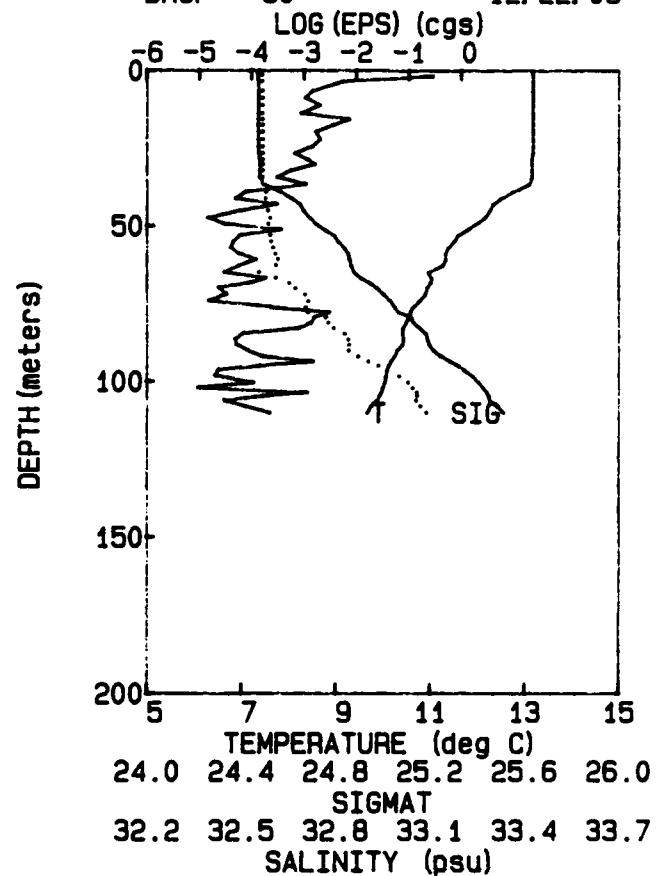
TAPE 144 06-01-87
DROP 48 12:08:47



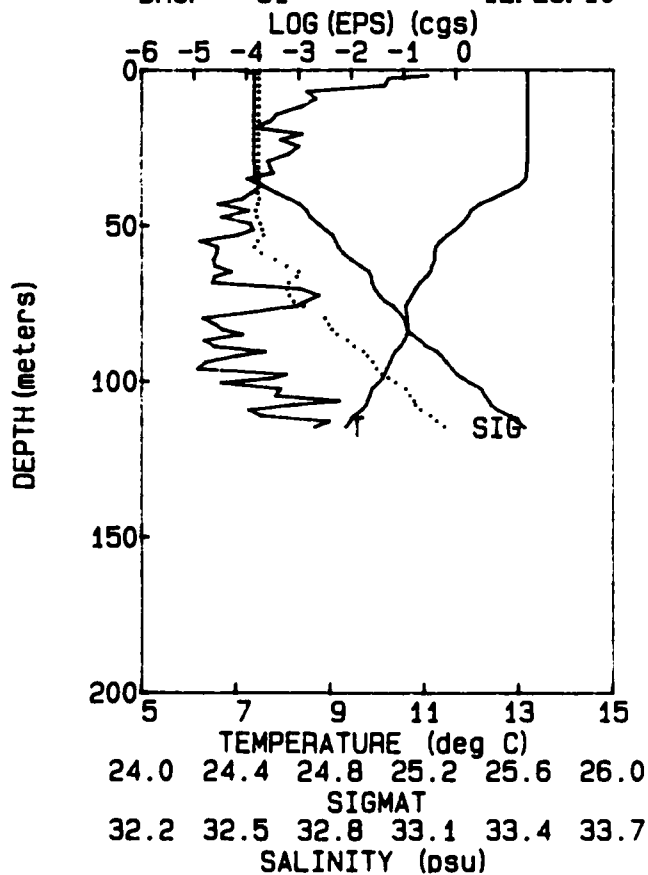
TAPE 144 06-01-87
DROP 49 12: 15: 22



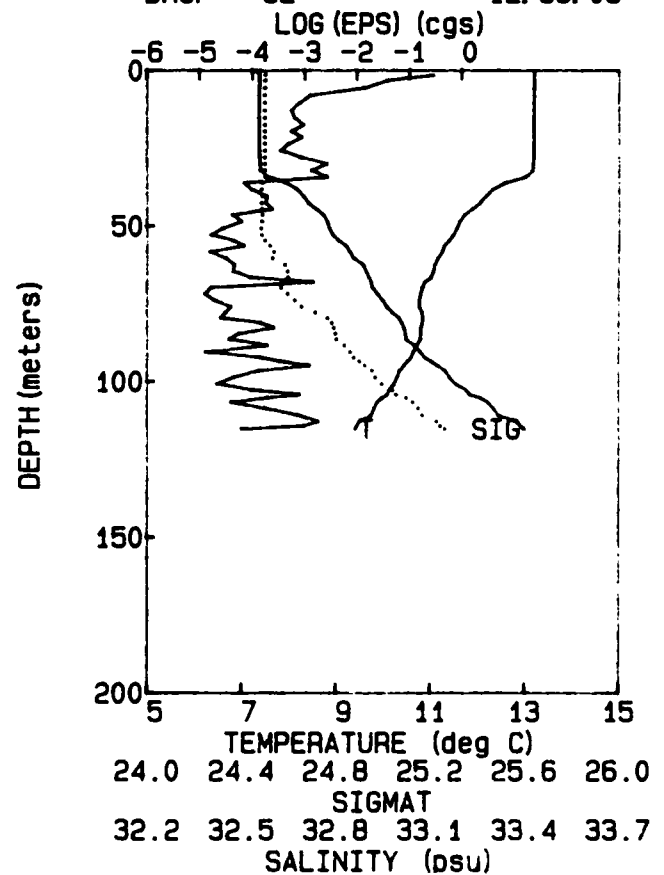
TAPE 144 06-01-87
DROP 50 12: 22: 09



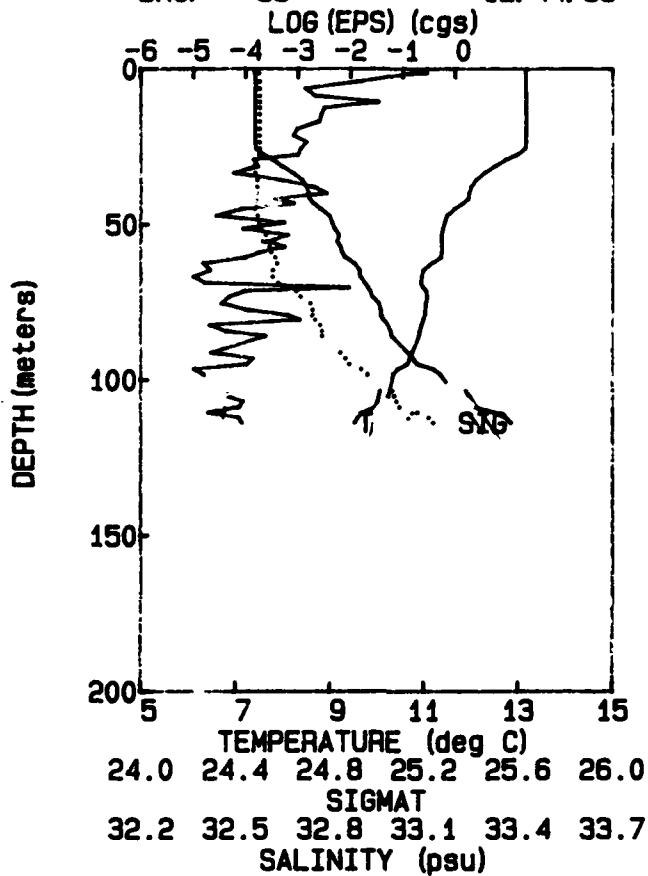
TAPE 144 06-01-87
DROP 51 12: 29: 10



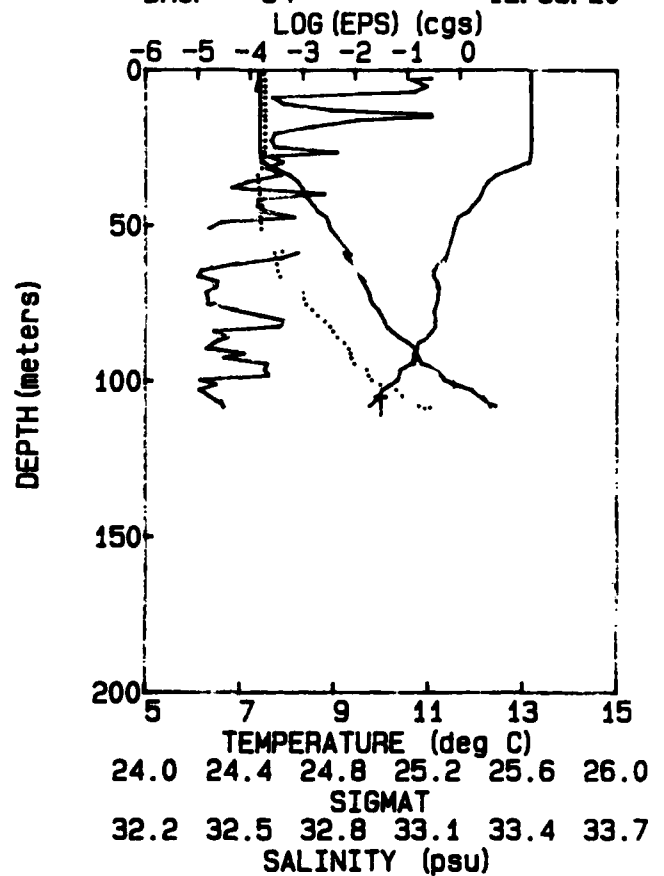
TAPE 144 06-01-87
DROP 52 12: 36: 09



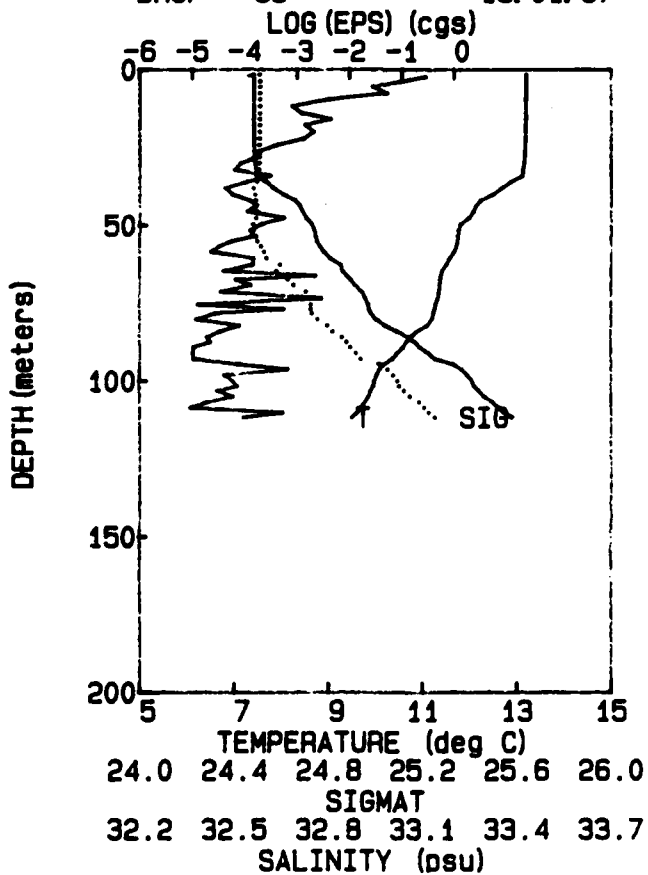
TAPE 144 06-01-87
DROP 53 12: 44: 33



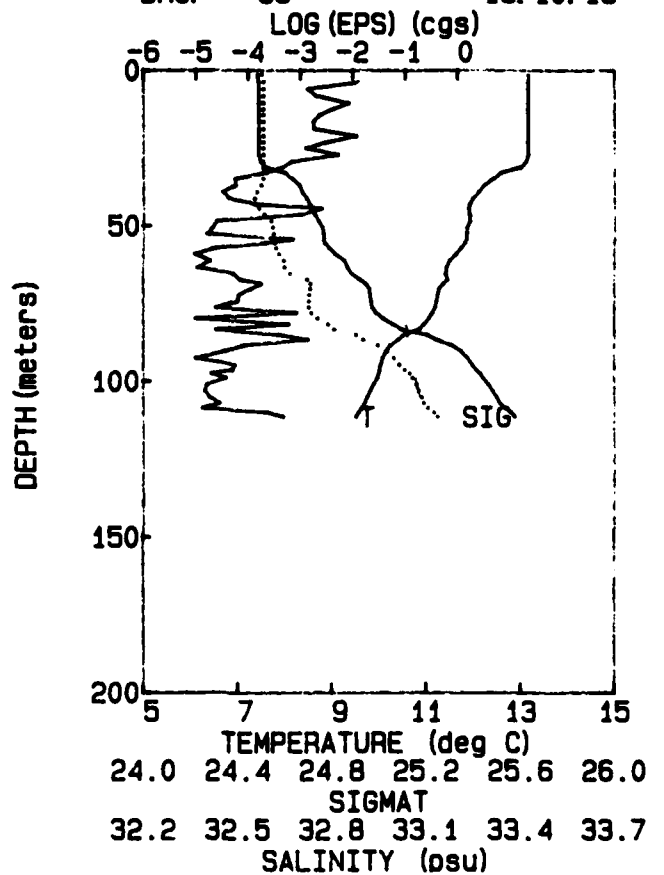
TAPE 144 06-01-87
DROP 54 12: 53: 20



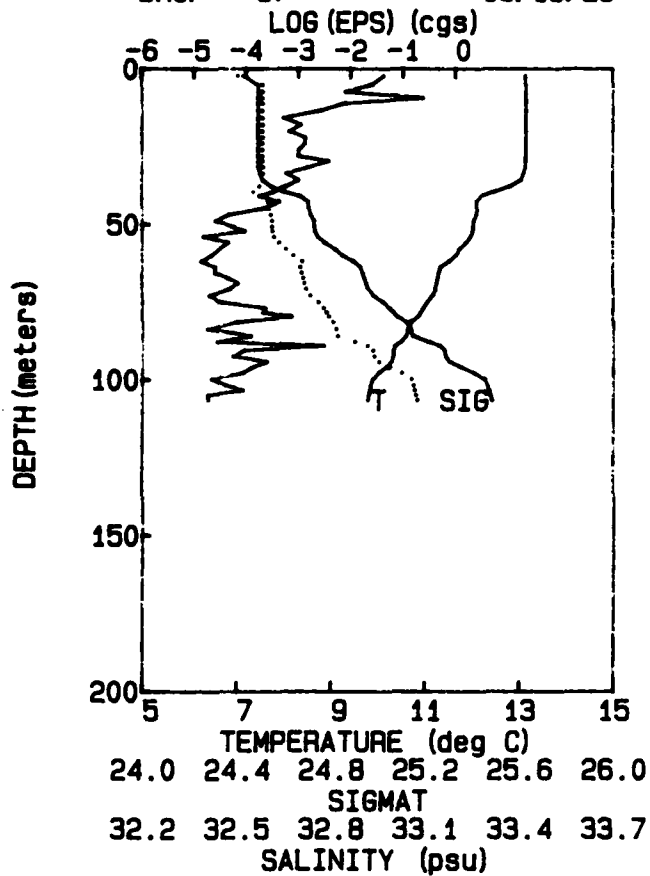
TAPE 144 06-01-87
DROP 55 13: 01: 57



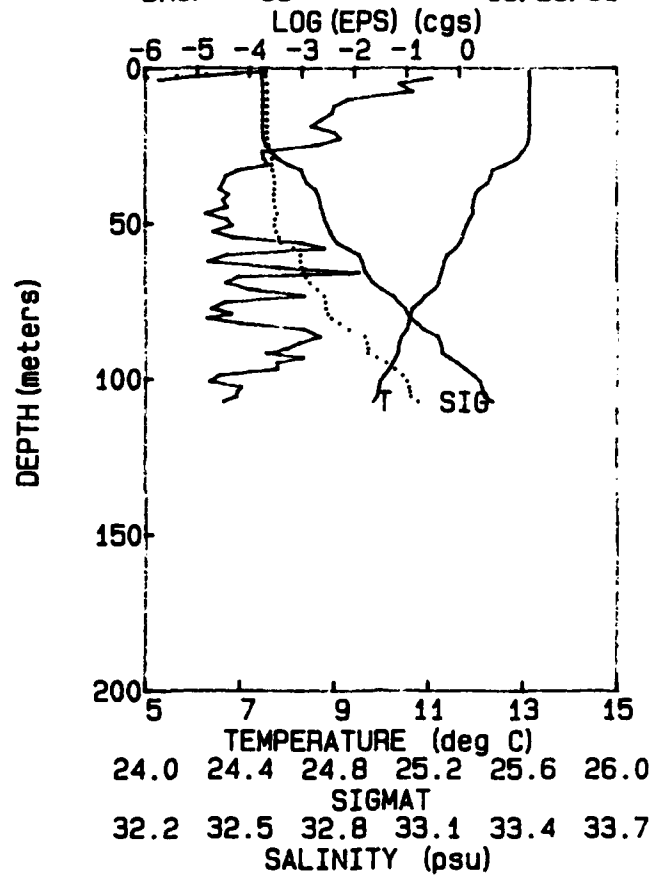
TAPE 144 06-01-87
DROP 56 13: 10: 15



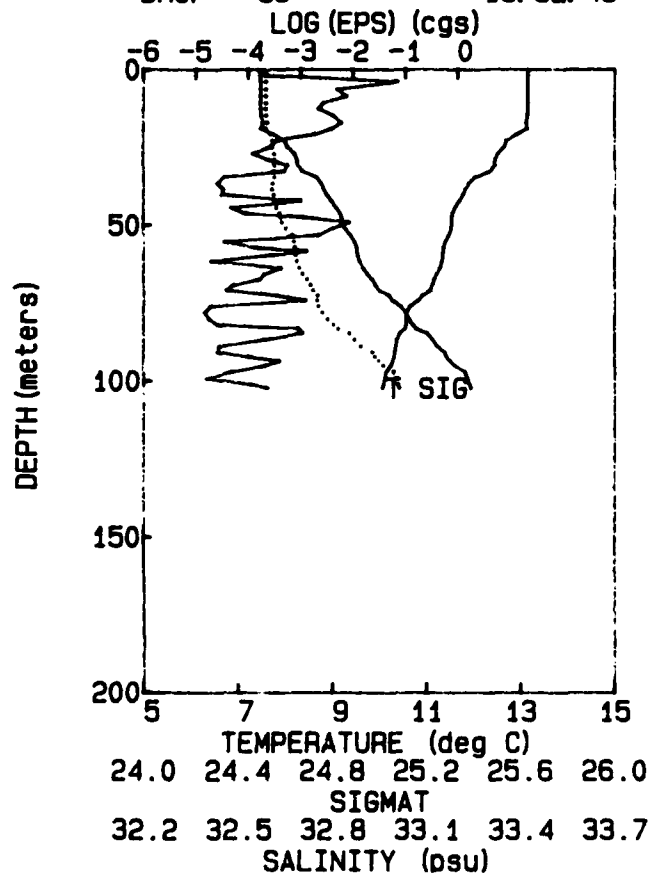
TAPE 144 06-01-87
DROP 57 13:18:29



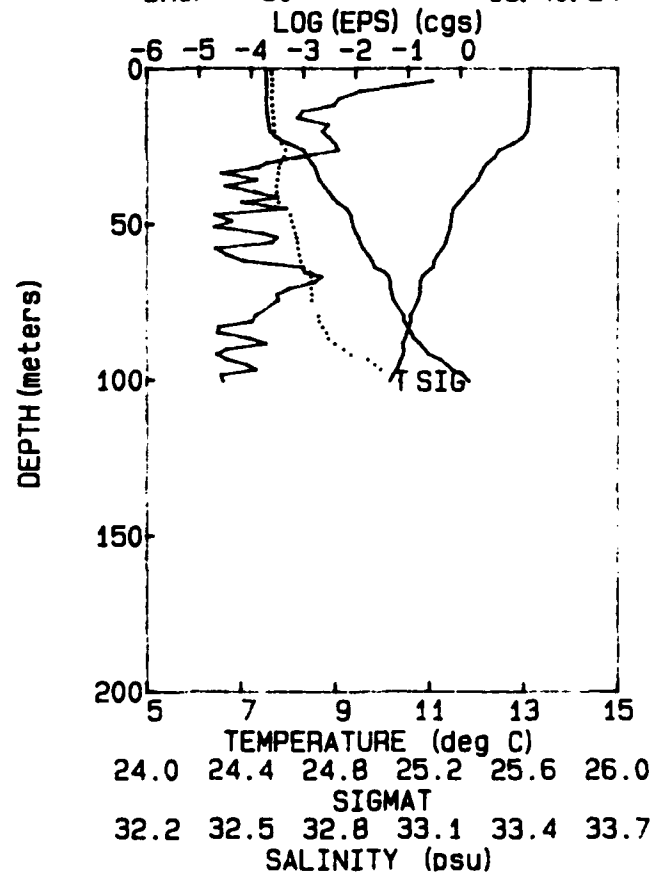
TAPE 144 06-01-87
DROP 58 13:25:51



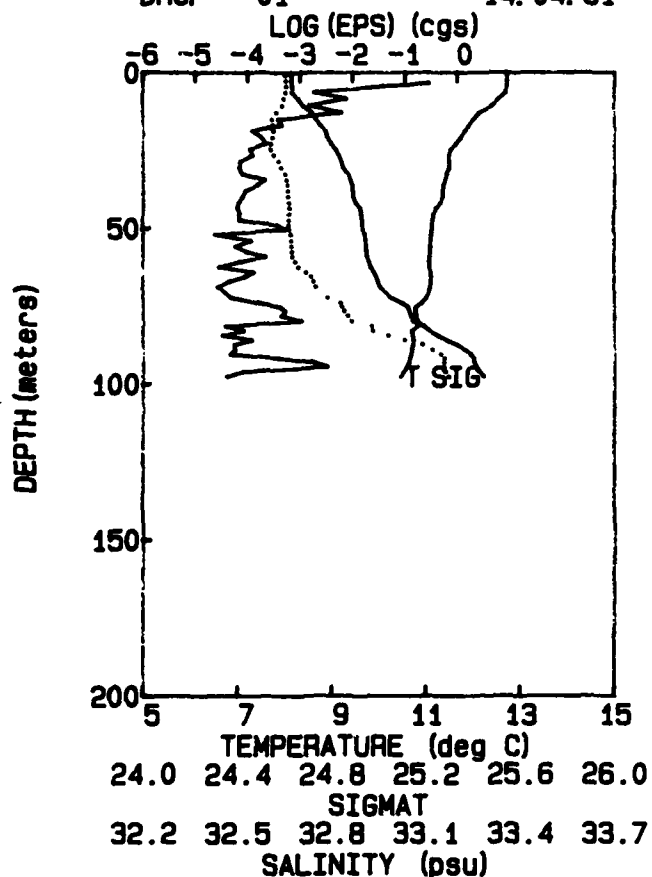
TAPE 144 06-01-87
DROP 59 13:32:43



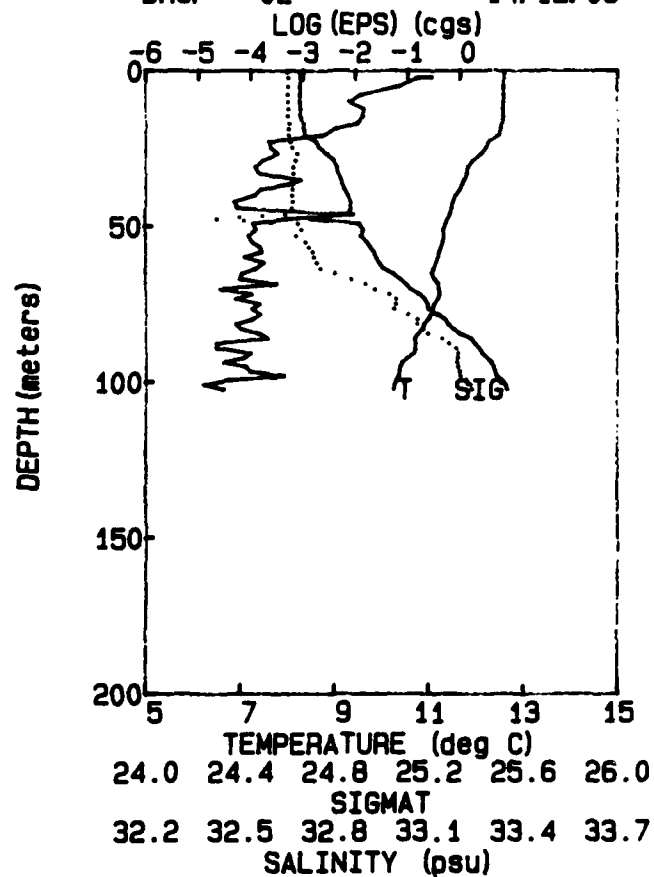
TAPE 144 06-01-87
DROP 60 13:40:24



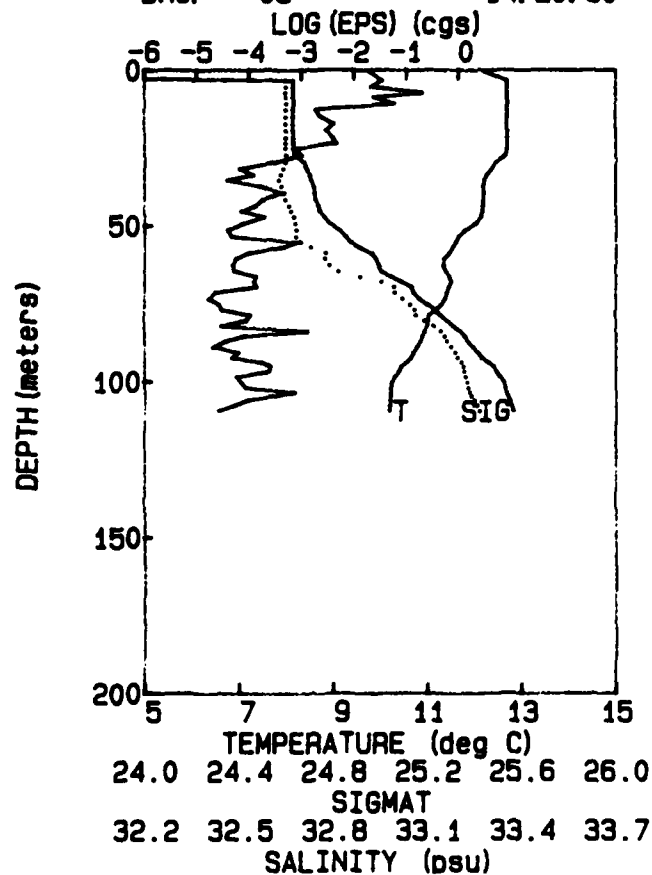
TAPE 145 06-01-87
DROP 01 14:04:31



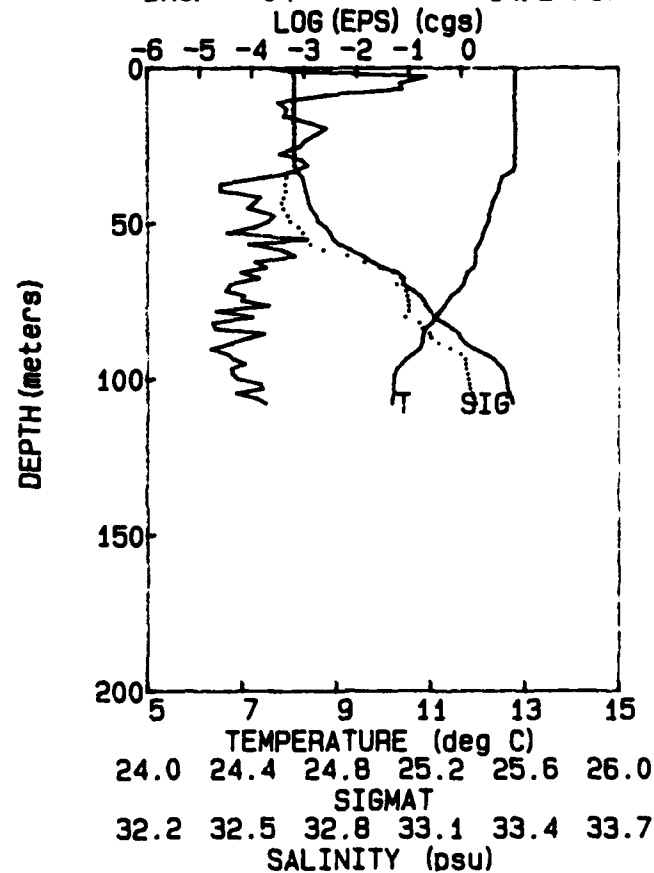
TAPE 145 06-01-87
DROP 02 14:12:06



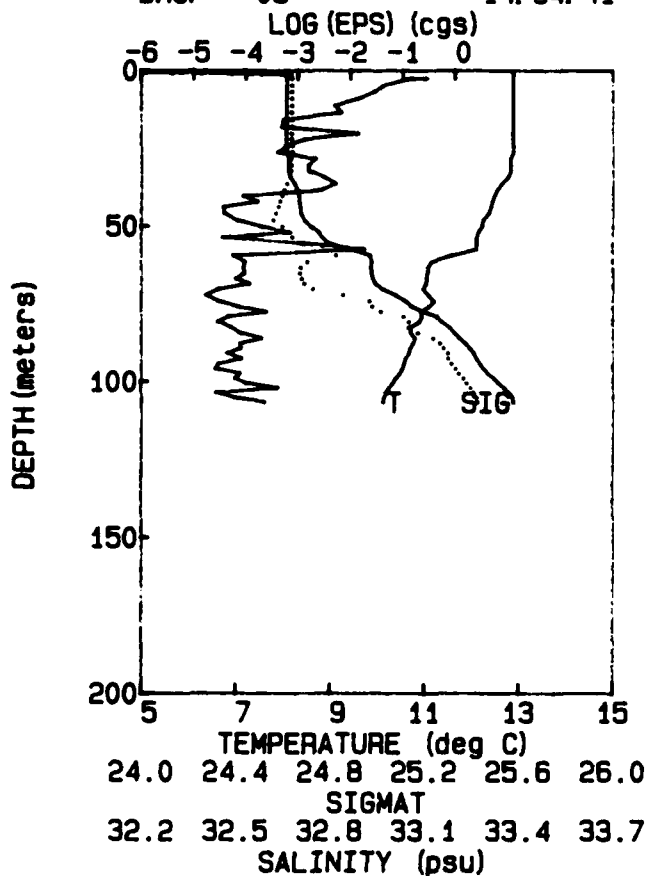
TAPE 145 06-01-87
DROP 03 14:20:30



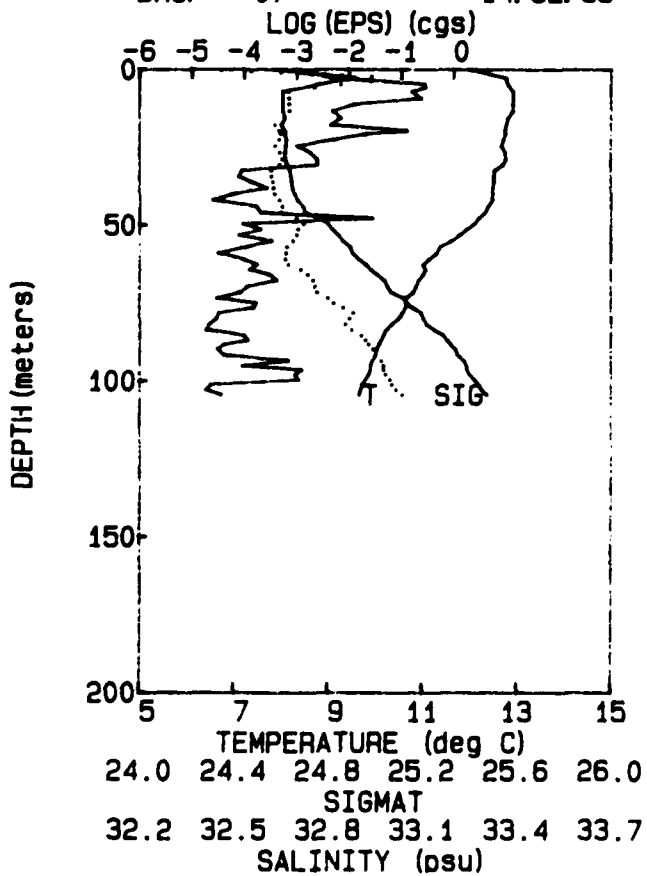
TAPE 145 06-01-87
DROP 04 14:27:37



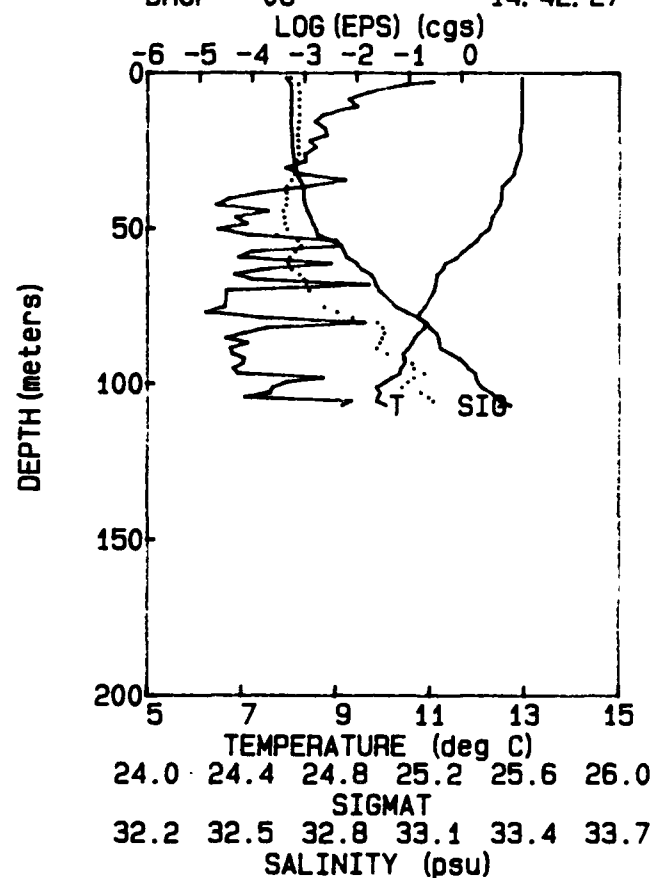
TAPE 145 06-01-87
DROP 05 14:34:41



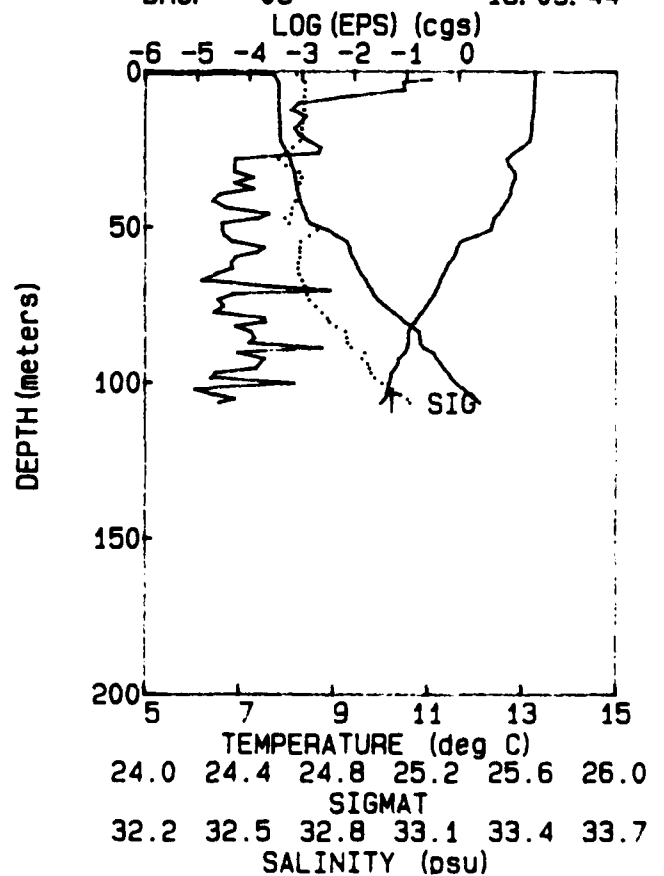
TAPE 145 06-01-87
DROP 07 14:52:35



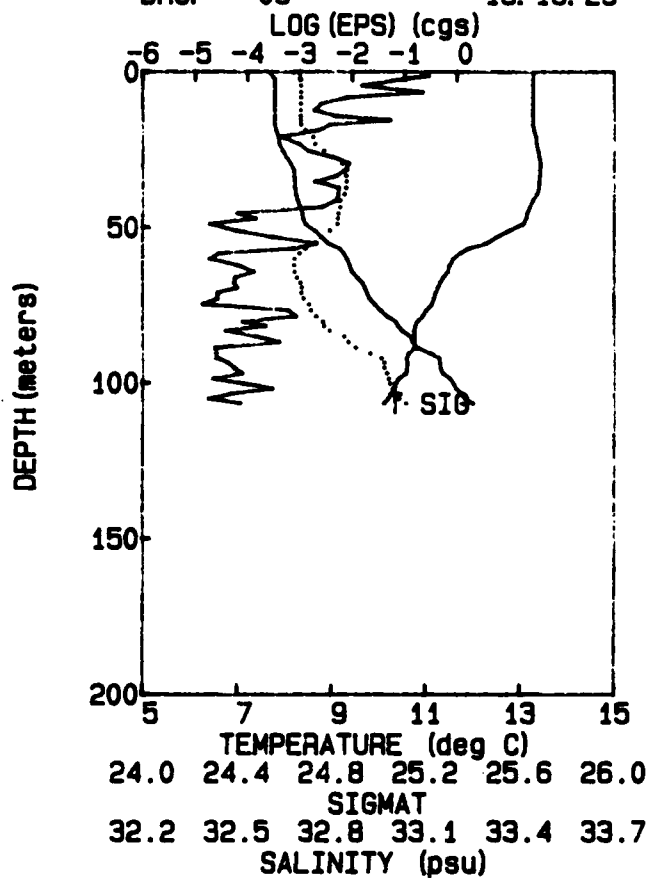
TAPE 145 06-01-87
DROP 06 14:42:27



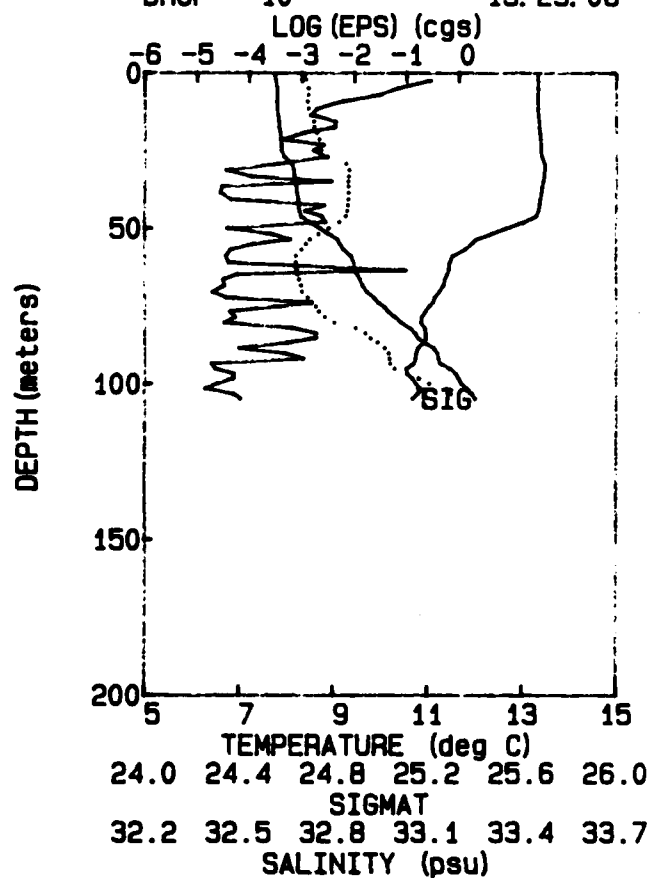
TAPE 145 06-01-87
DROP 08 15:09:44



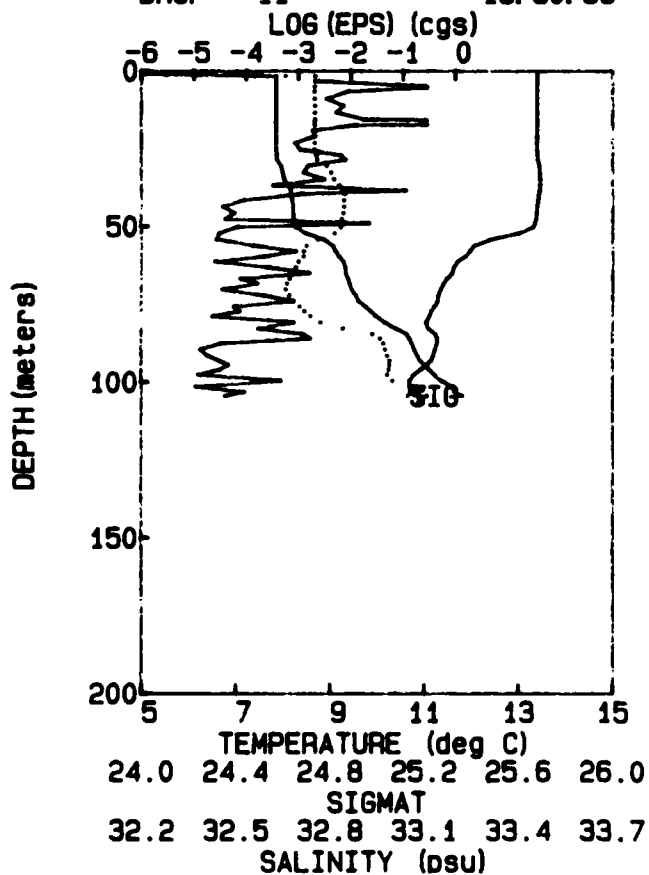
TAPE 145 06-01-87
DROP 09 15: 16: 29



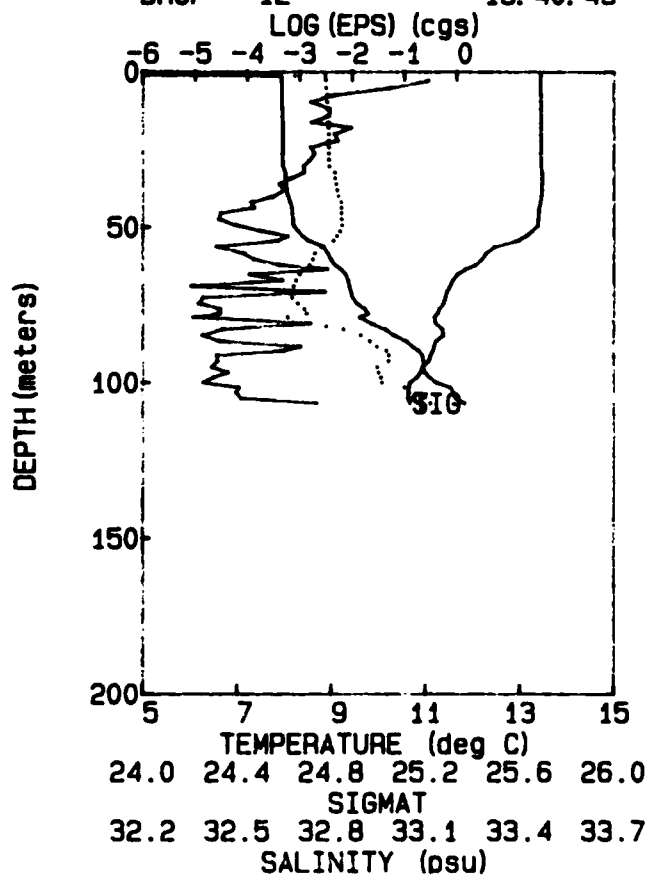
TAPE 145 06-01-87
DROP 10 15: 23: 08

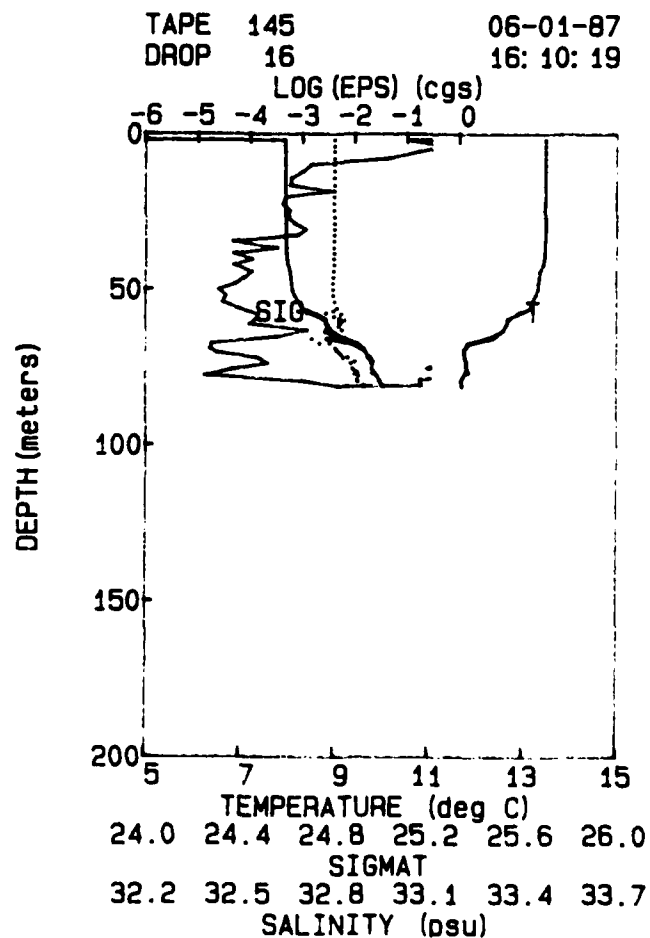
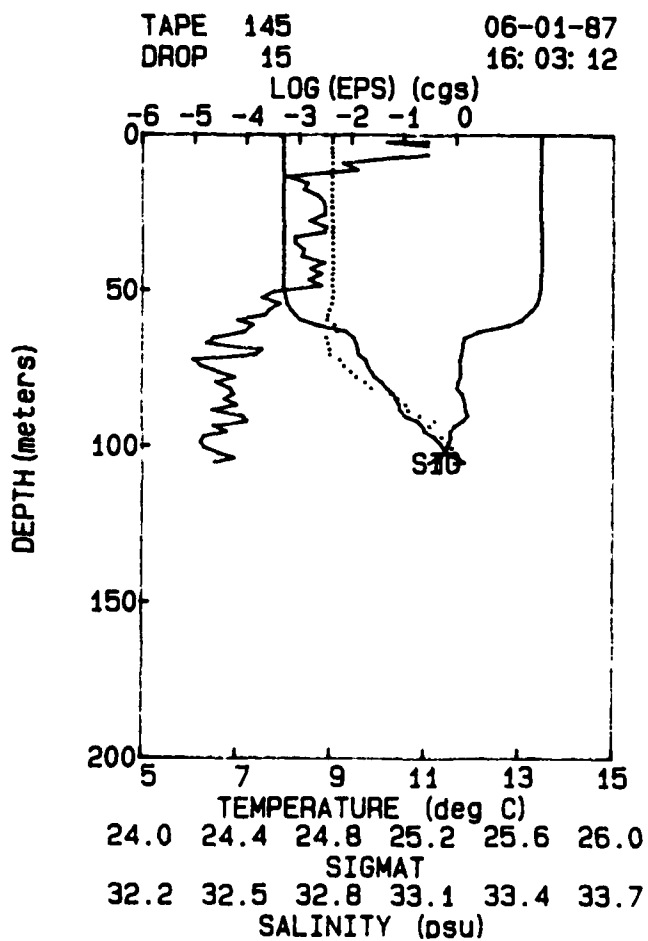
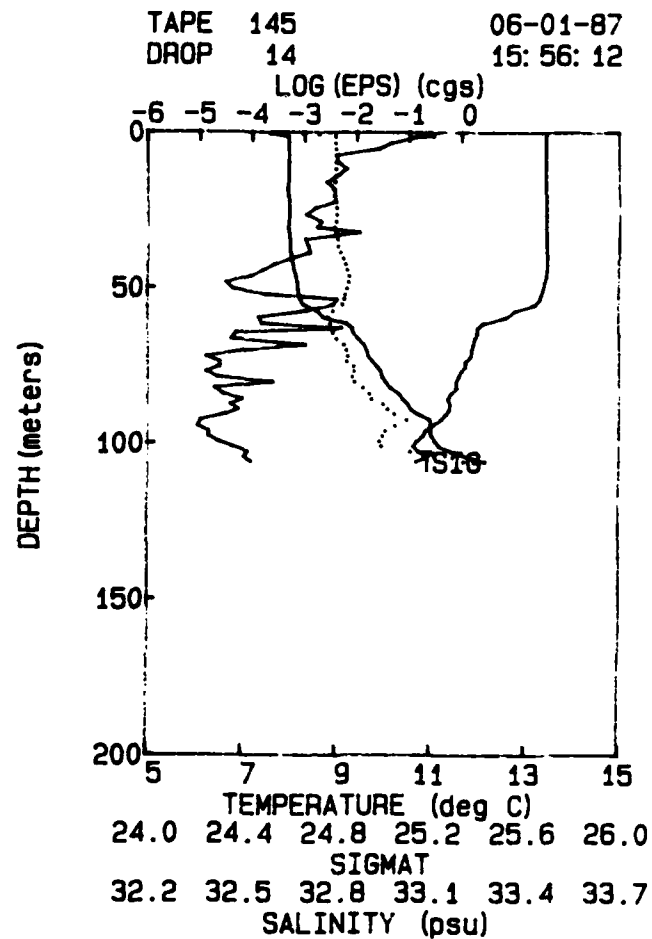
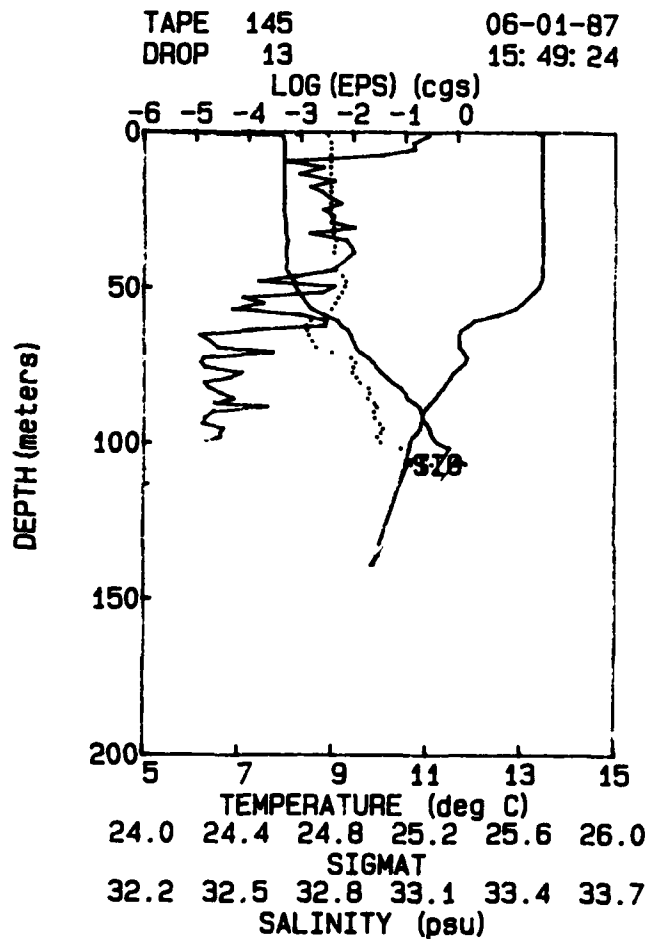


TAPE 145 06-01-87
DROP 11 15: 30: 56

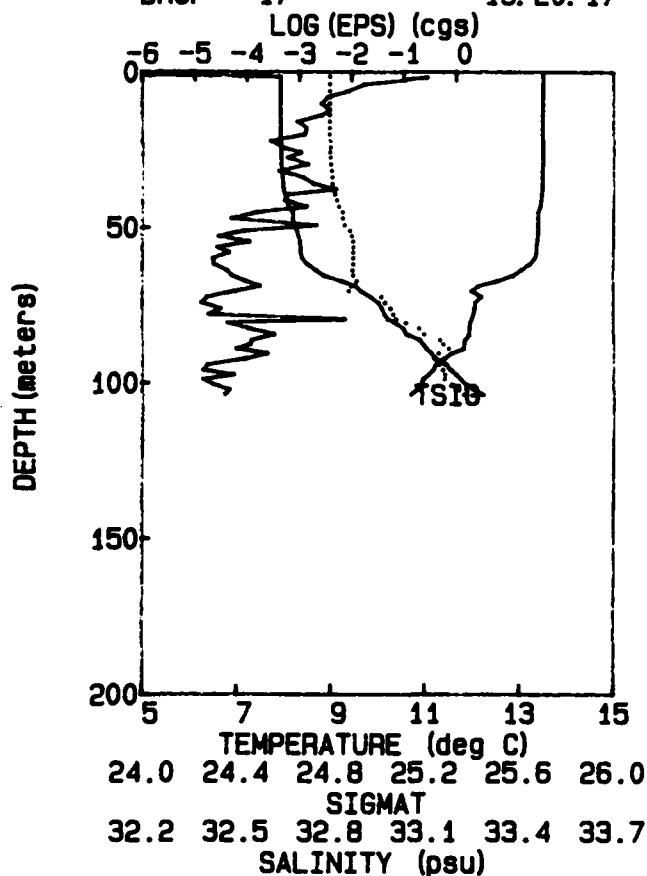


TAPE 145 06-01-87
DROP 12 15: 40: 49

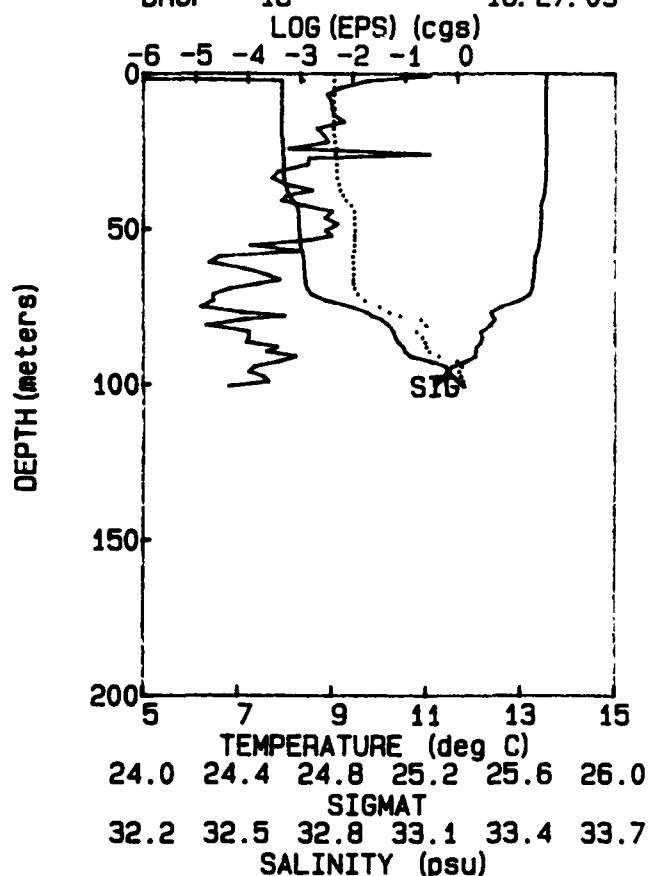




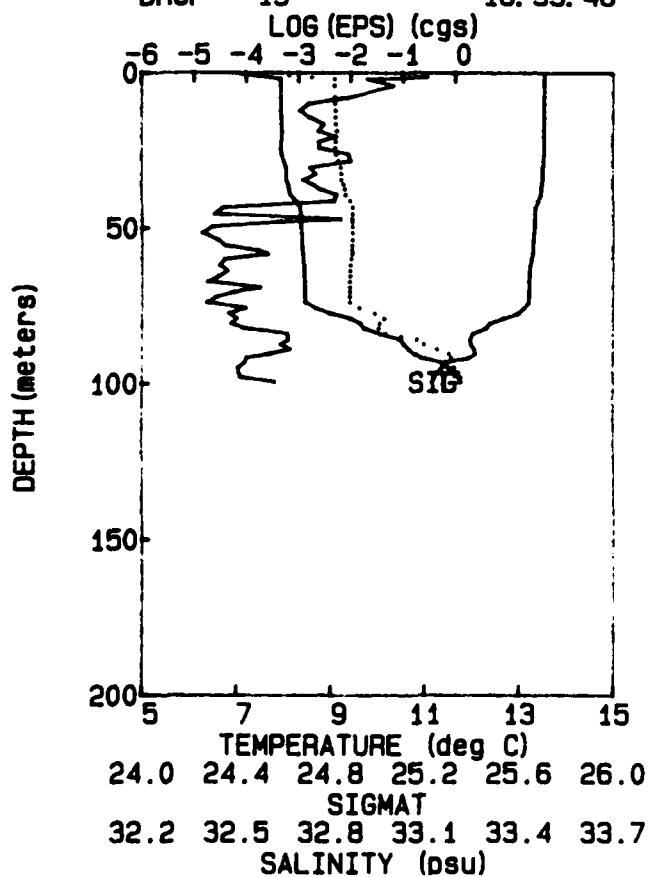
TAPE 145 06-01-87
DROP 17 16:20:17



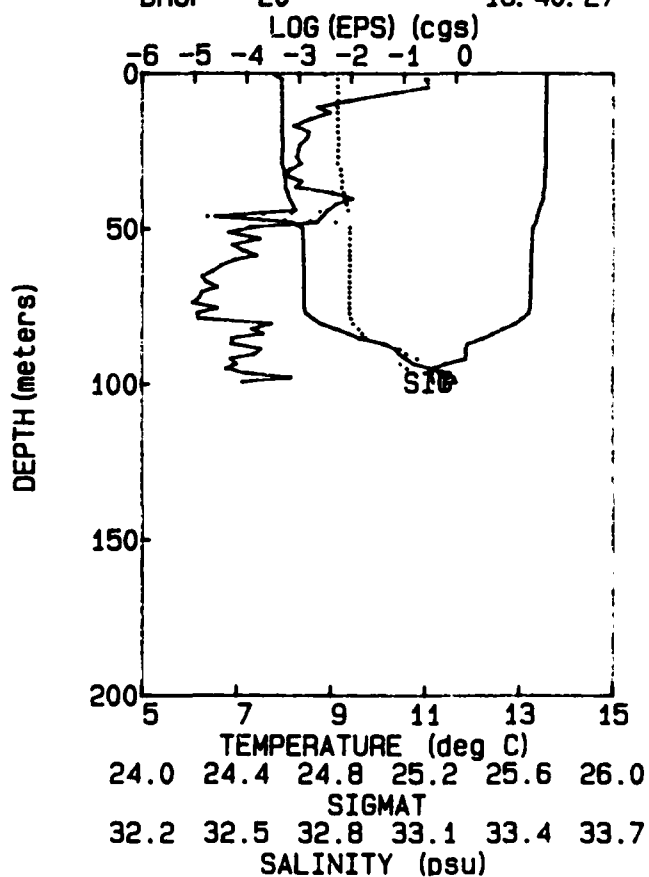
TAPE 145 06-01-87
DROP 18 16:27:09



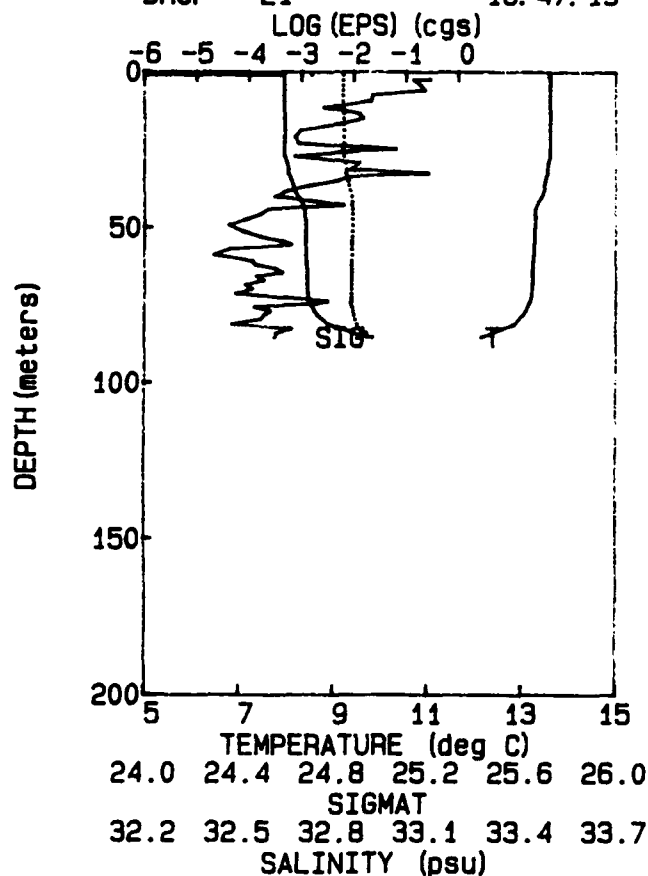
TAPE 145 06-01-87
DROP 19 16:33:46



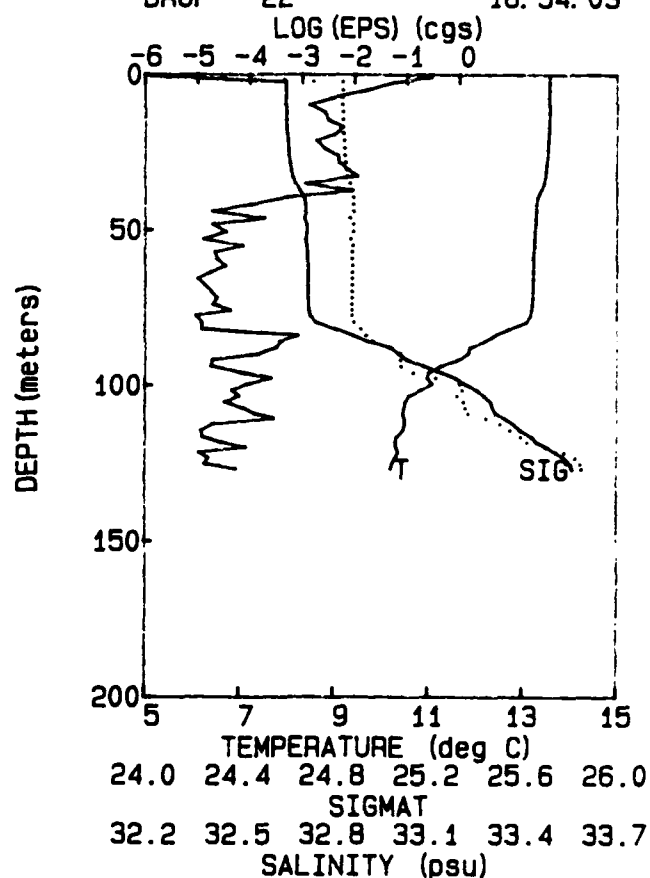
TAPE 145 06-01-87
DROP 20 16:40:27



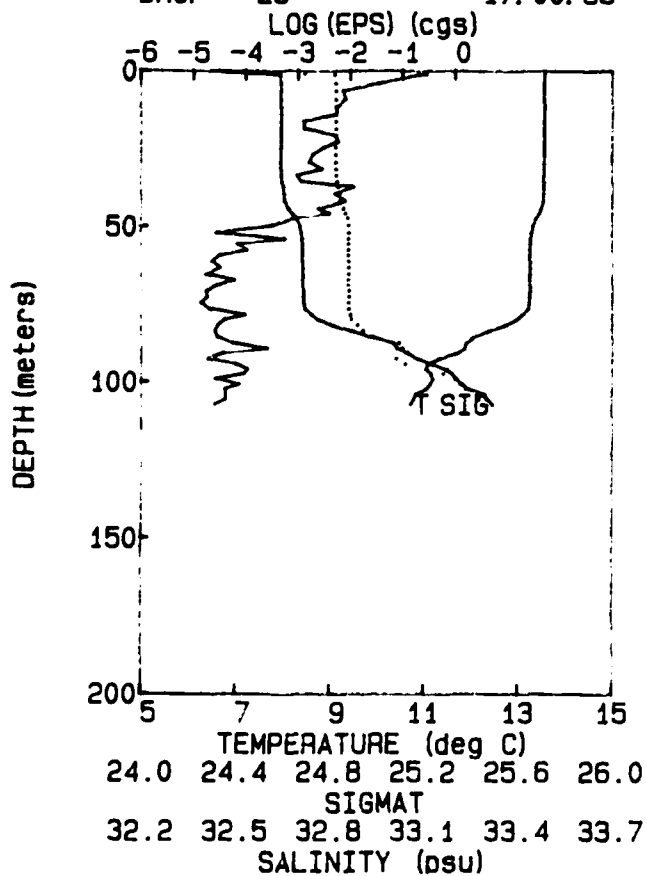
TAPE 145 06-01-87
DROP 21 16: 47: 19



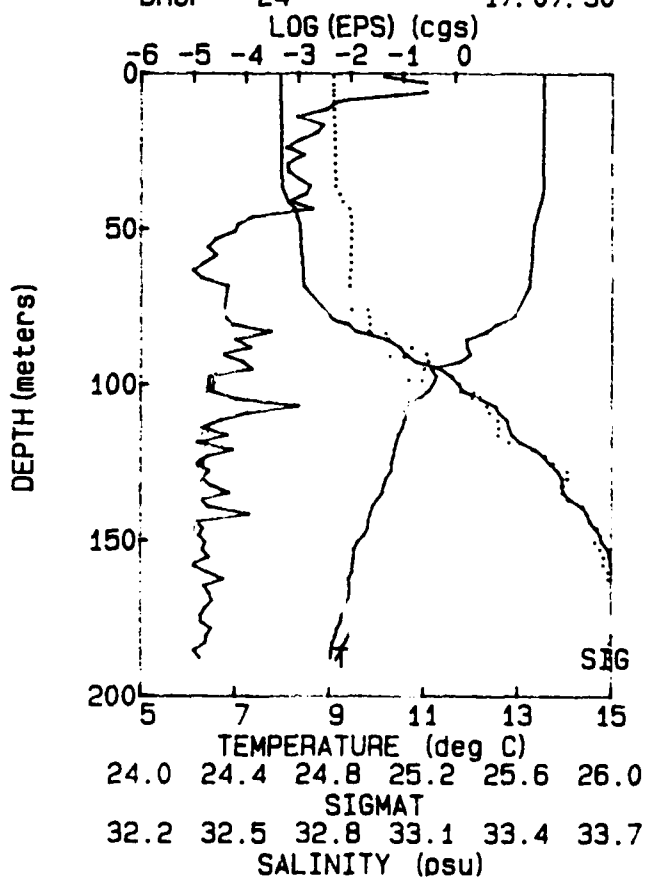
TAPE 145 06-01-87
DROP 22 16: 54: 03



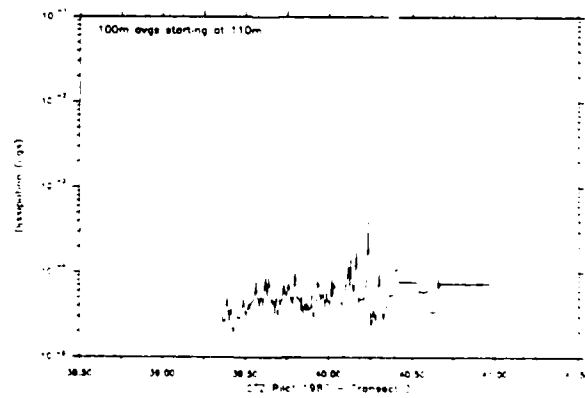
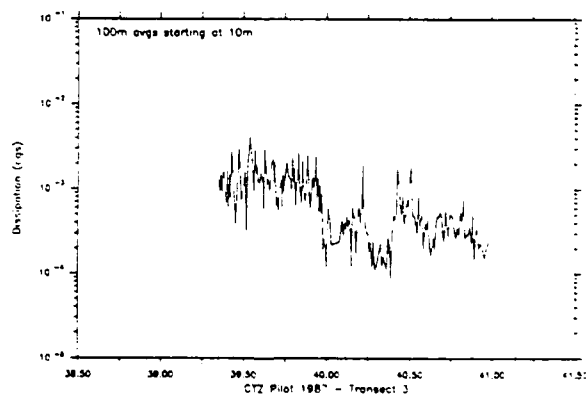
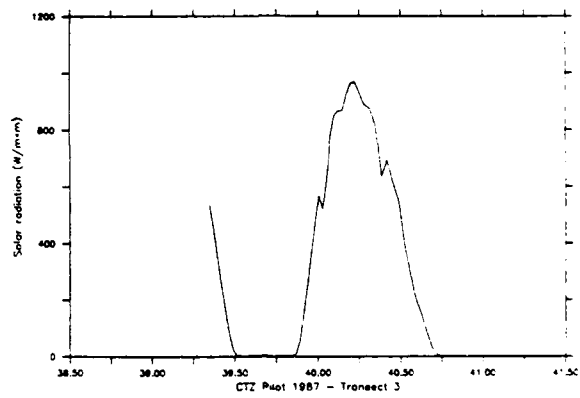
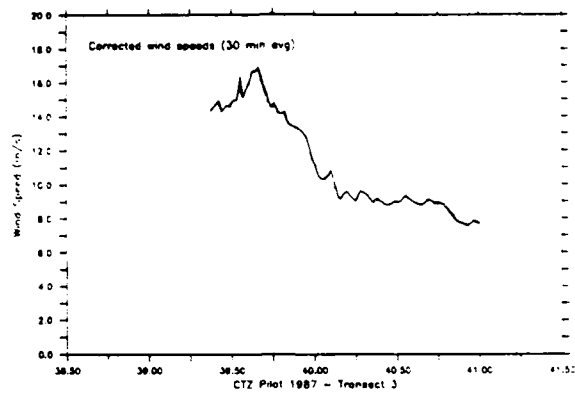
TAPE 145 06-01-87
DROP 23 17: 00: 55

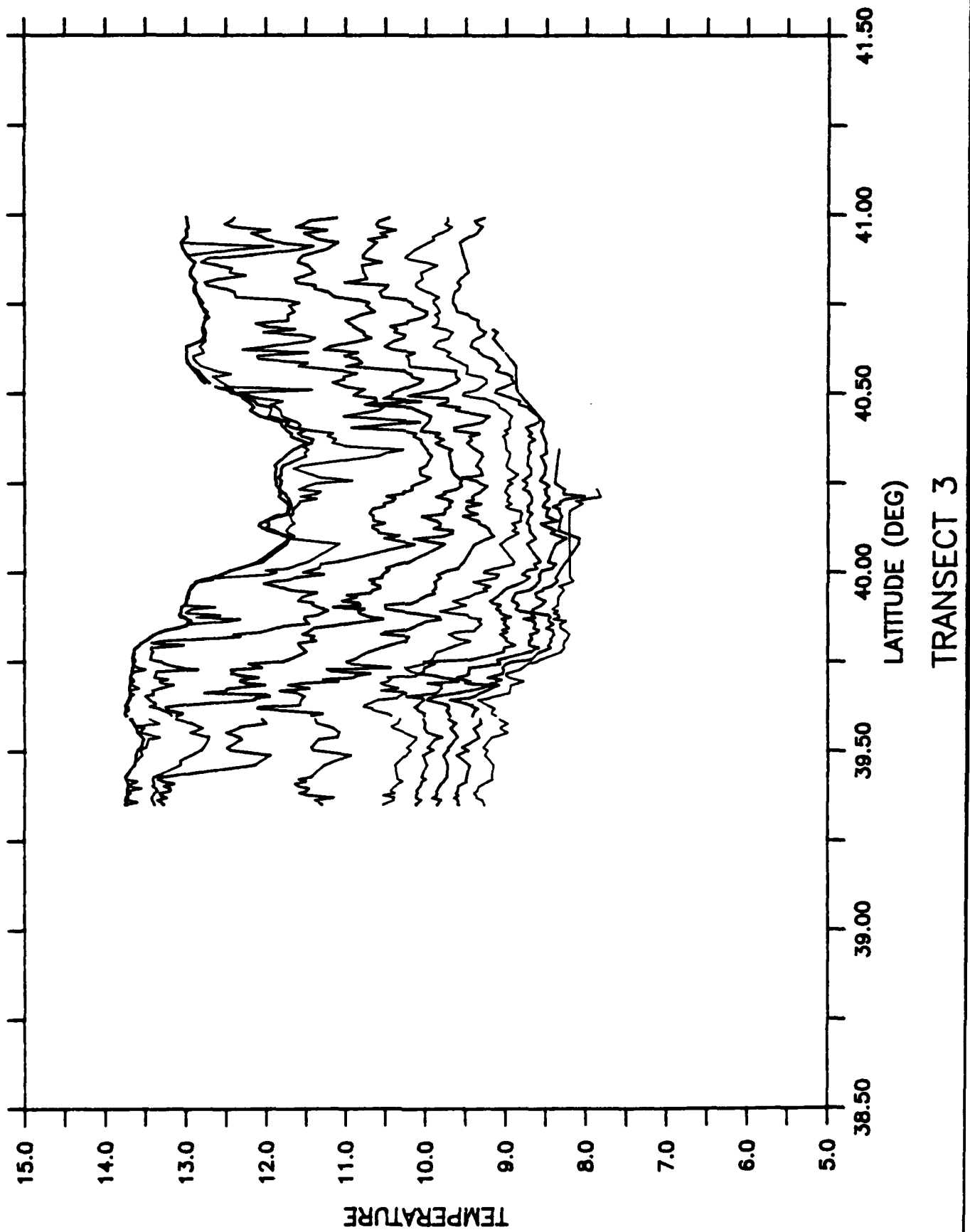


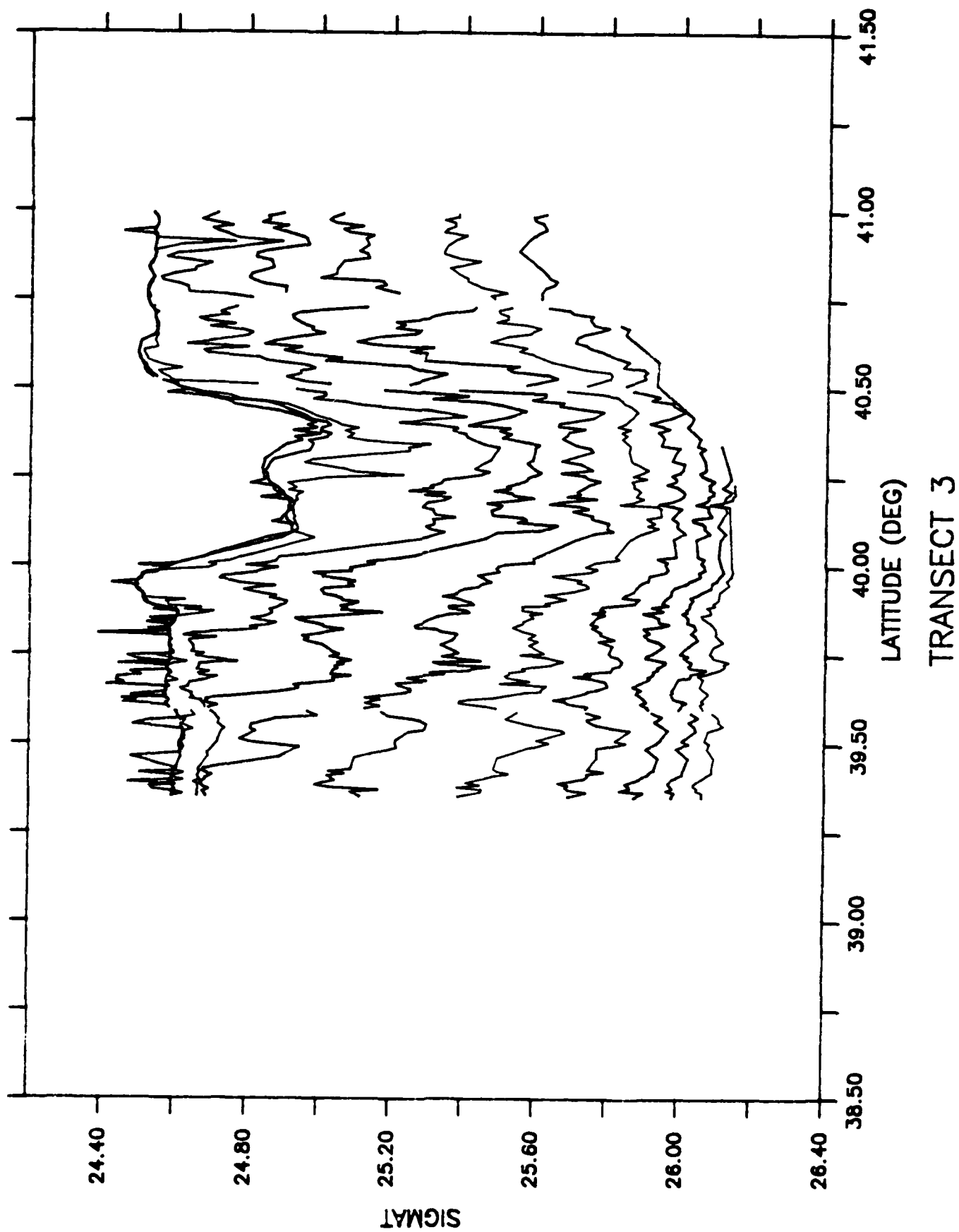
TAPE 145 06-01-87
DROP 24 17: 07: 30



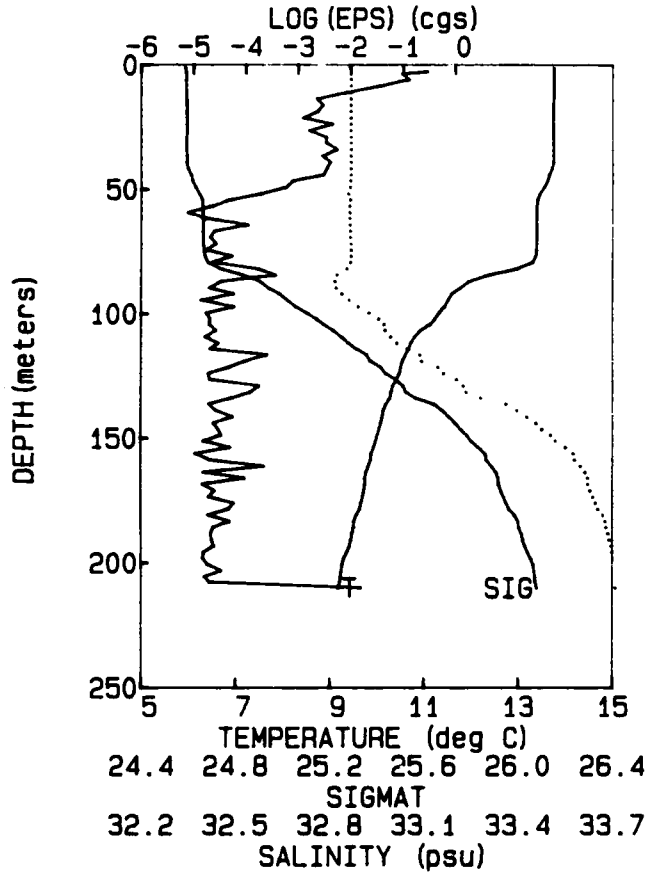
TRANSECT 3



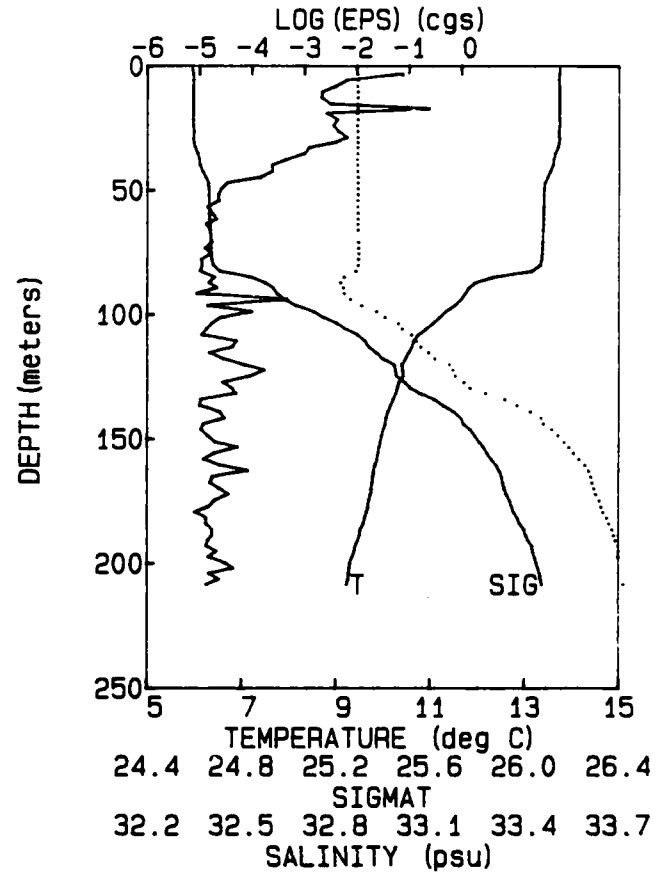




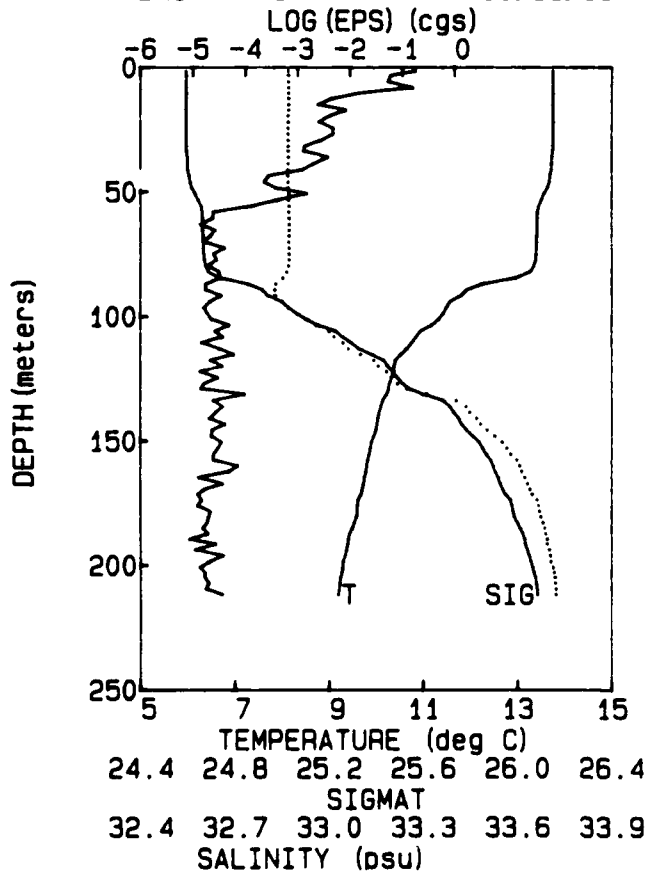
TAPE 145 06-02-87
DROP 41 00: 38: 29



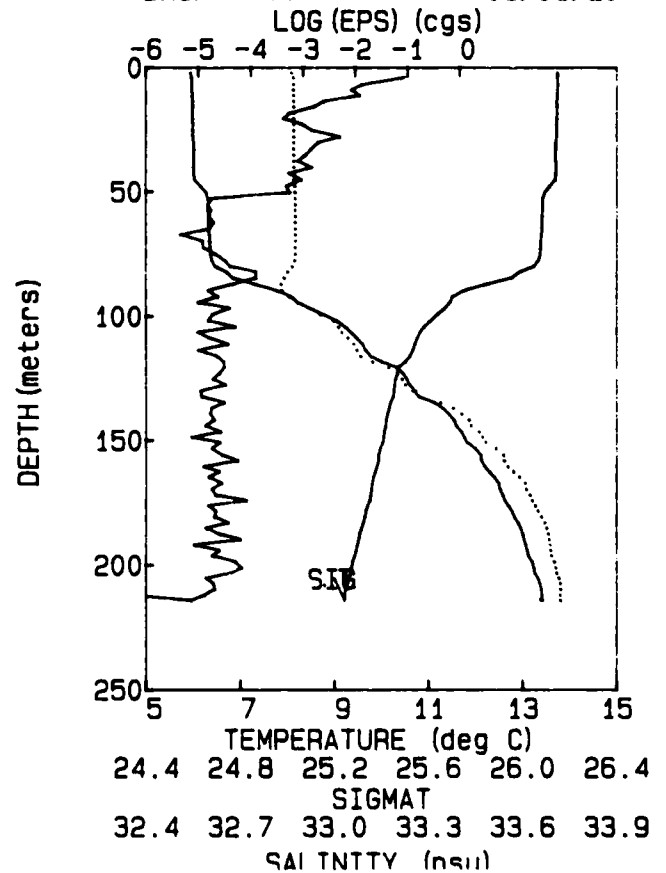
TAPE 145 06-02-87
DROP 42 00: 45: 50

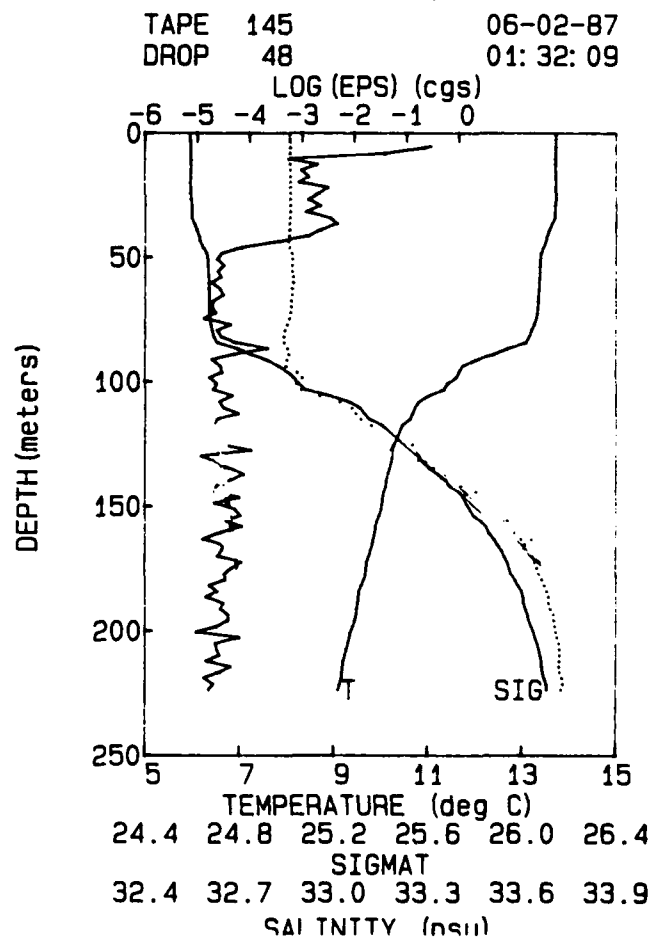
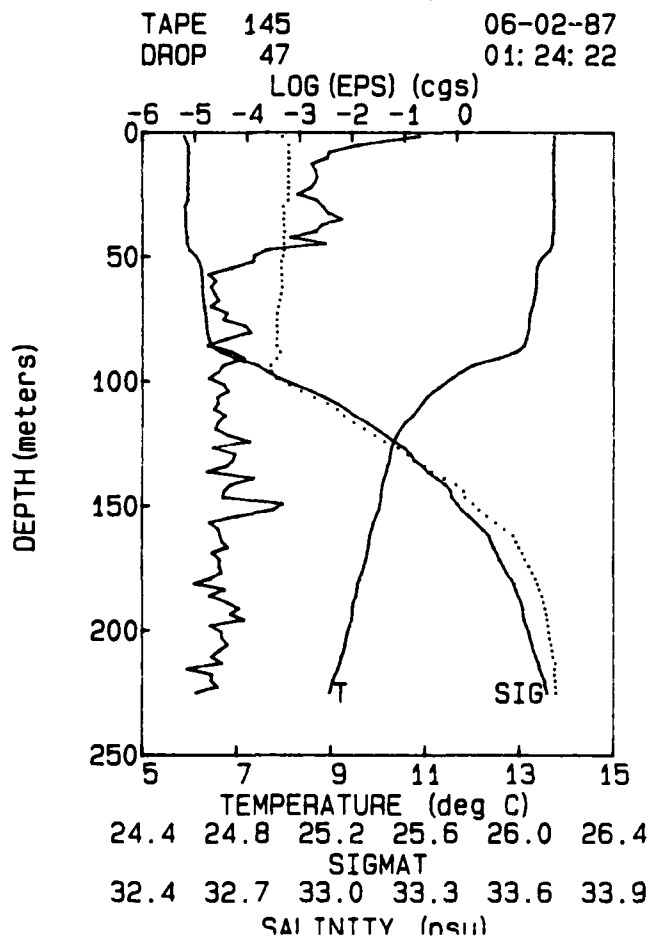
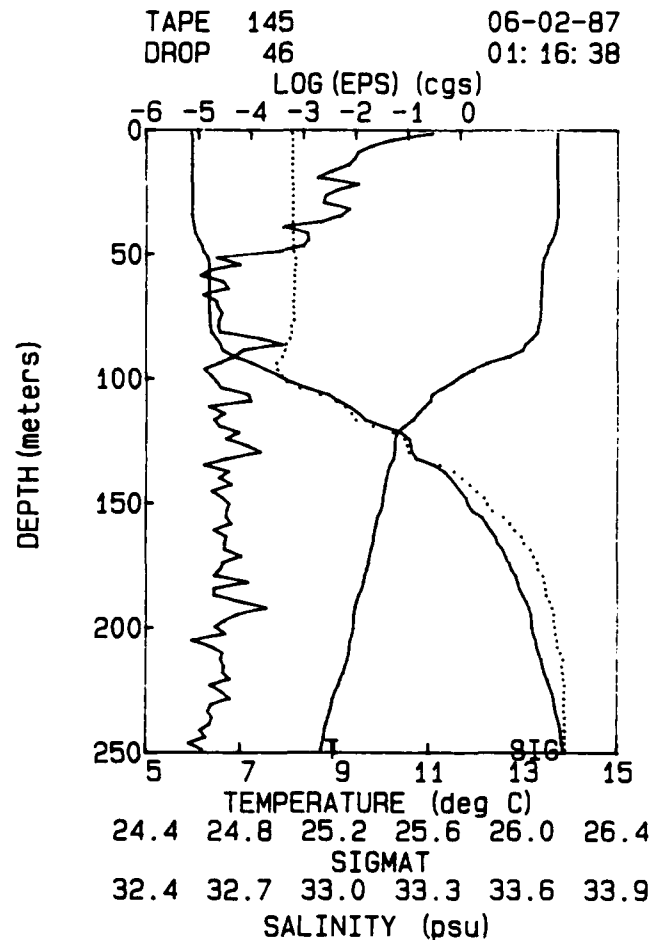
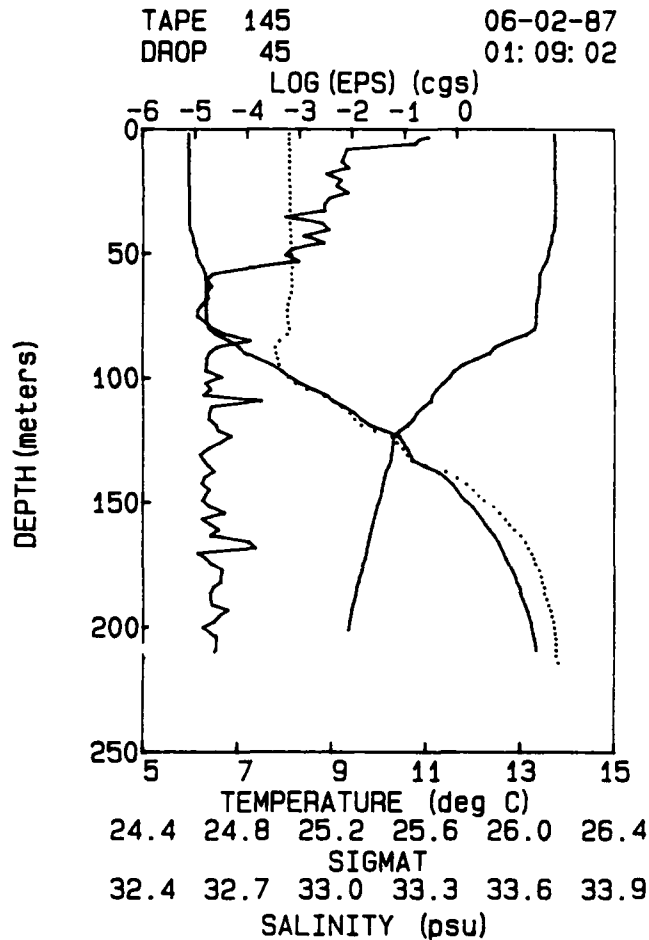


TAPE 145 06-02-87
DROP 43 00: 53: 36

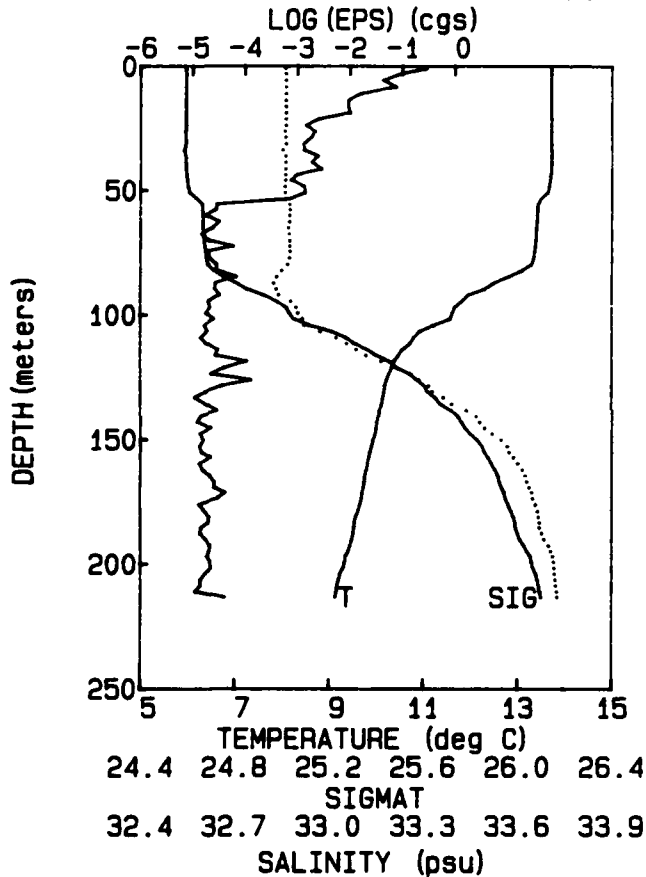


TAPE 145 06-02-87
DROP 44 01: 01: 20

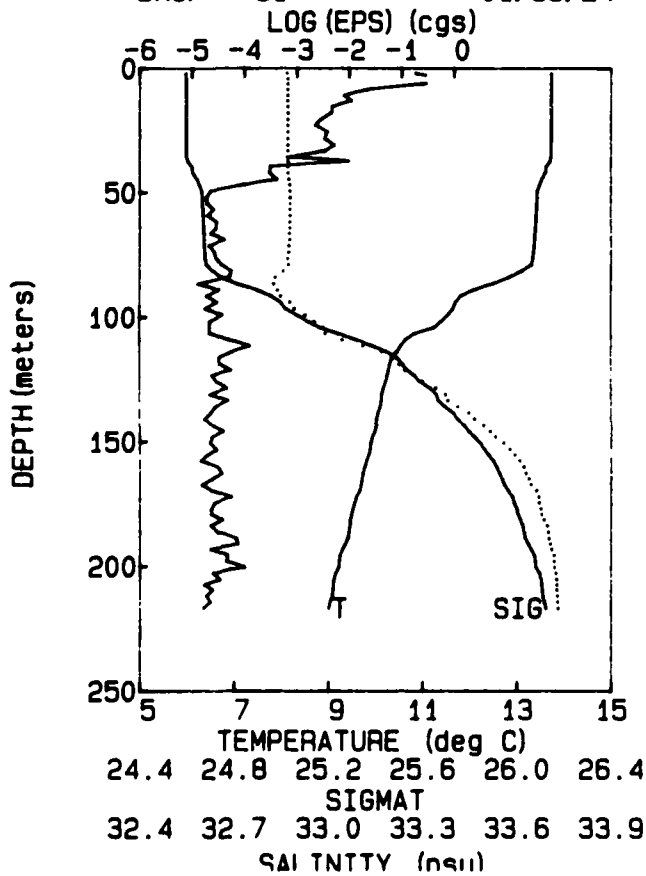




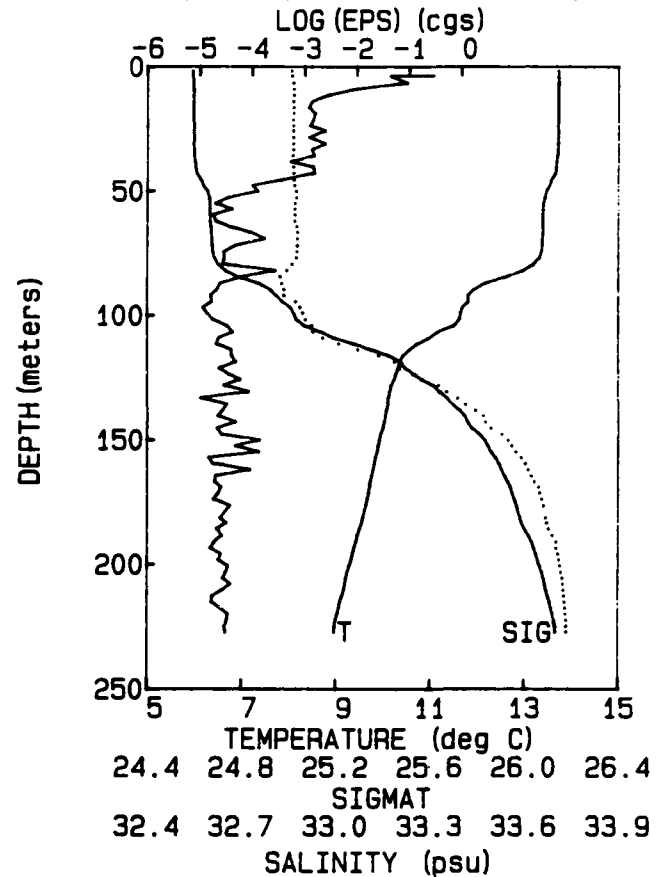
TAPE 145 06-02-87
DROP 49 01: 40: 06



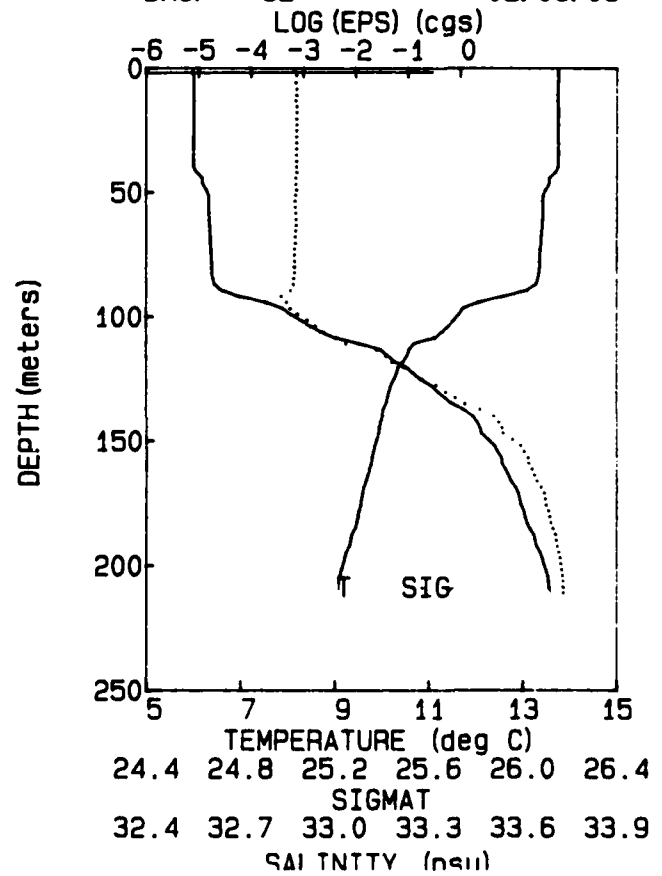
TAPE 145 06-02-87
DROP 51 01: 55: 24



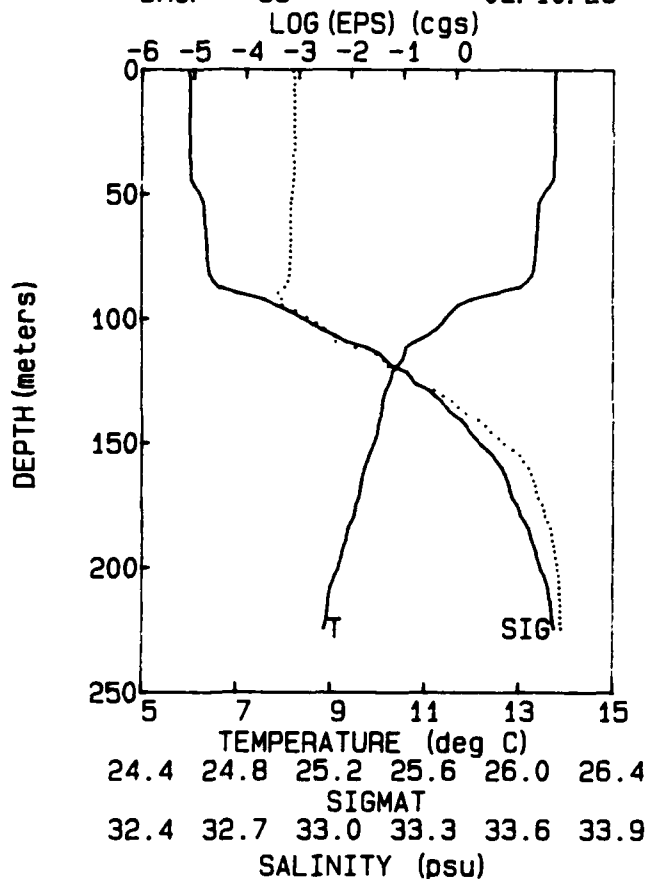
TAPE 145 06-02-87
DROP 50 01: 47: 47



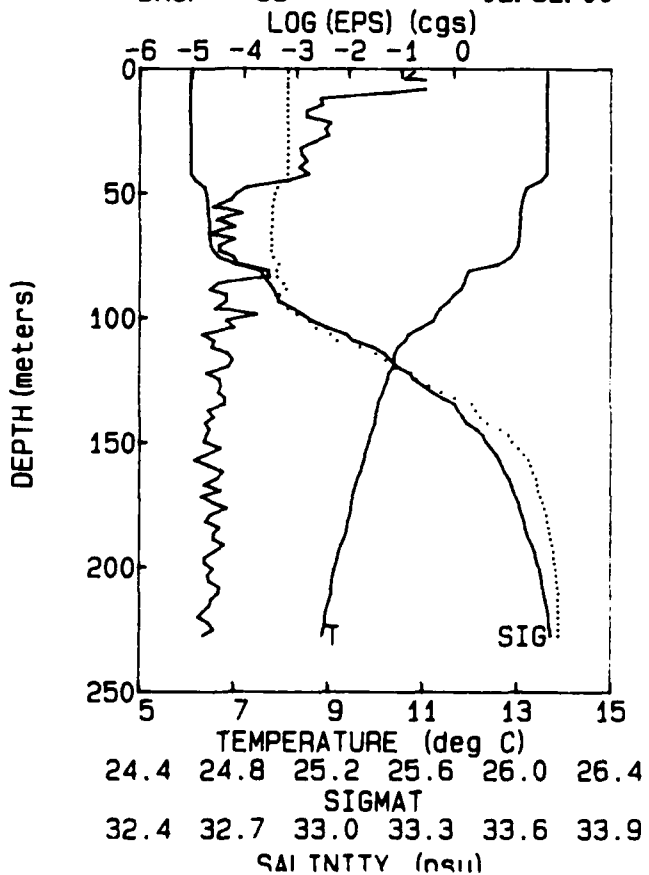
TAPE 145 06-02-87
DROP 52 02: 03: 05



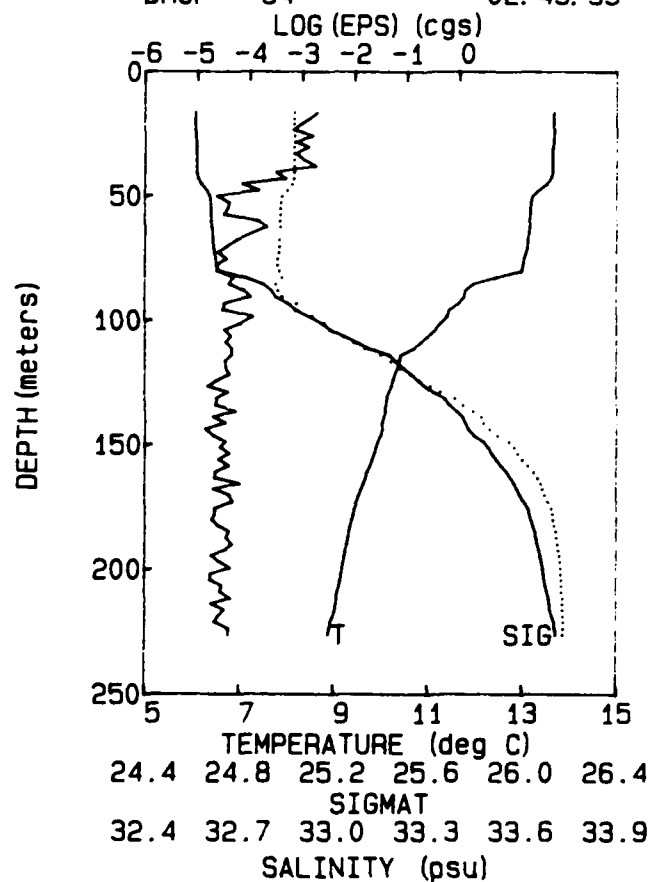
TAPE 145 06-02-87
DROP 53 02: 10: 26



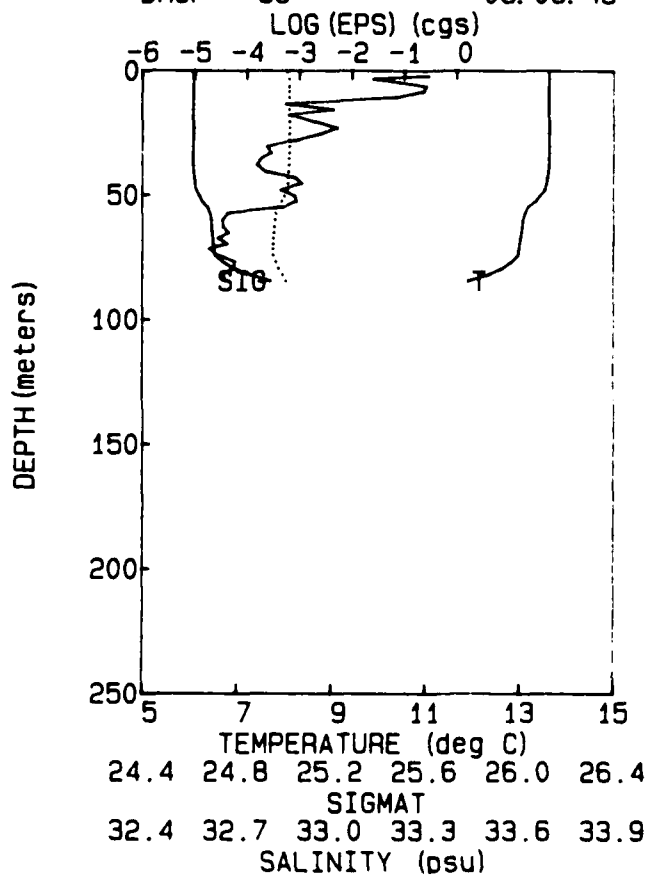
TAPE 145 06-02-87
DROP 55 02: 52: 00

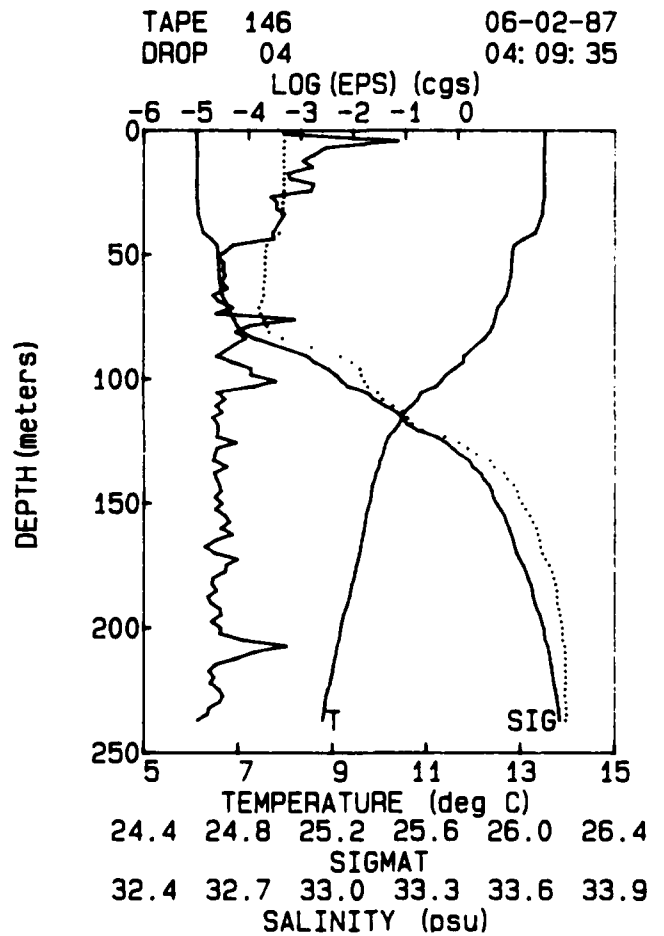
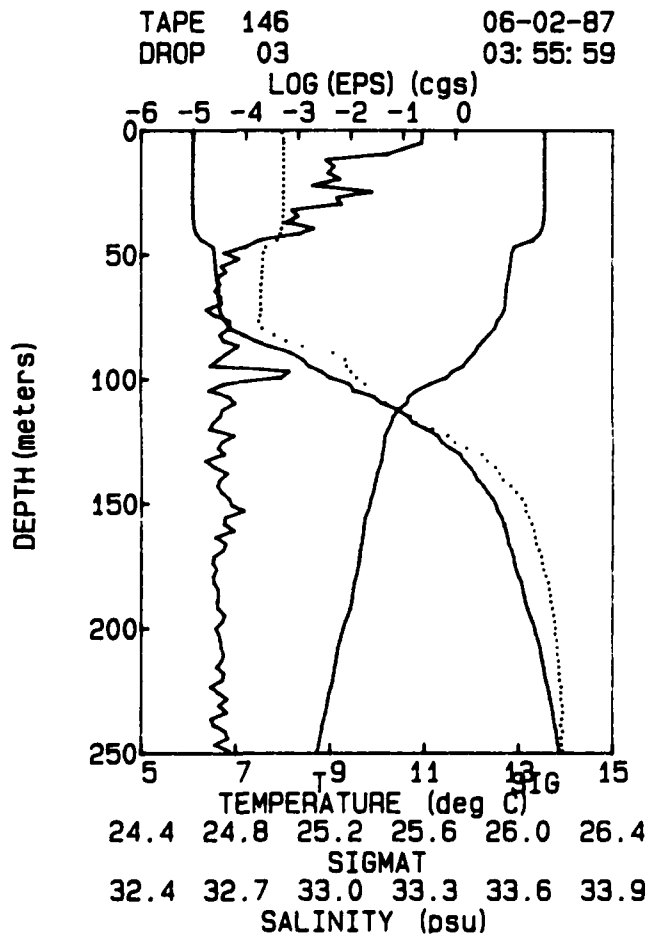
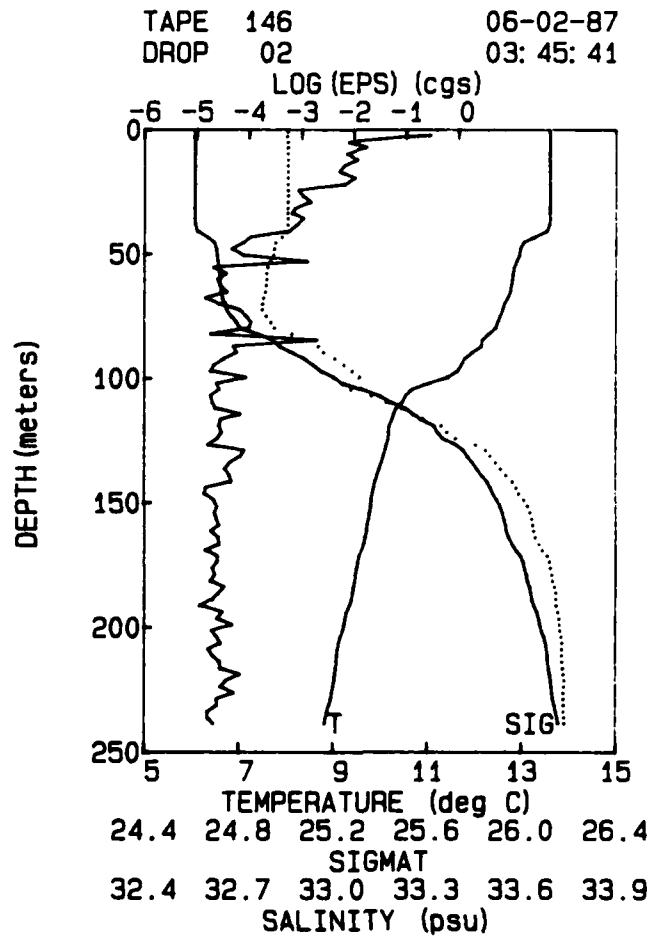
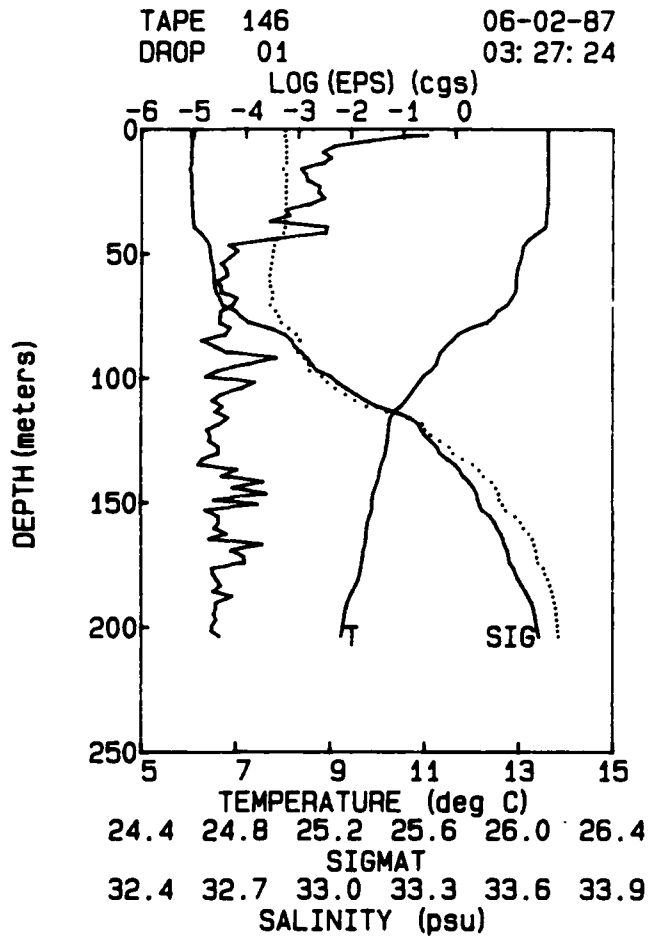


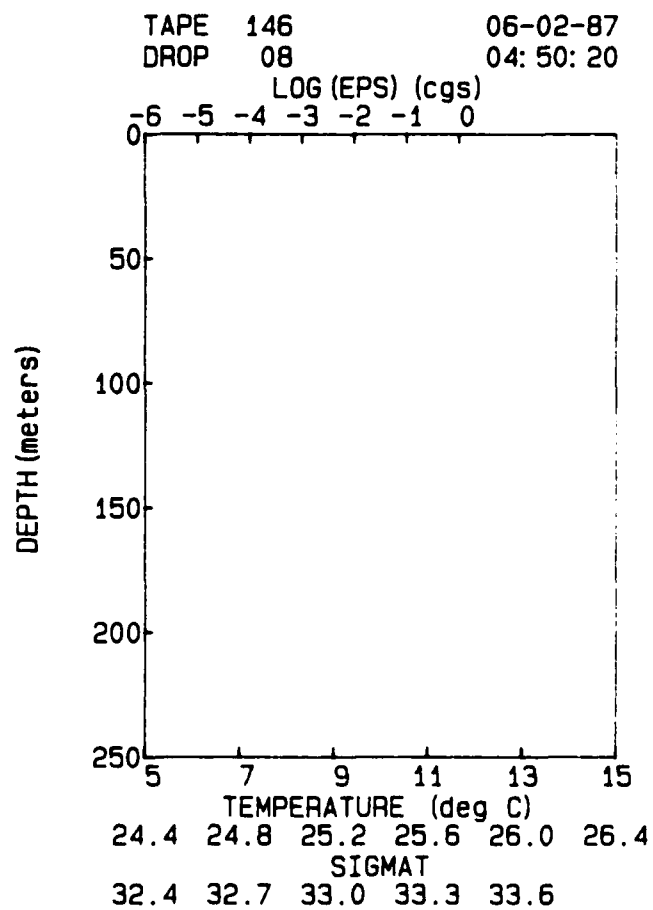
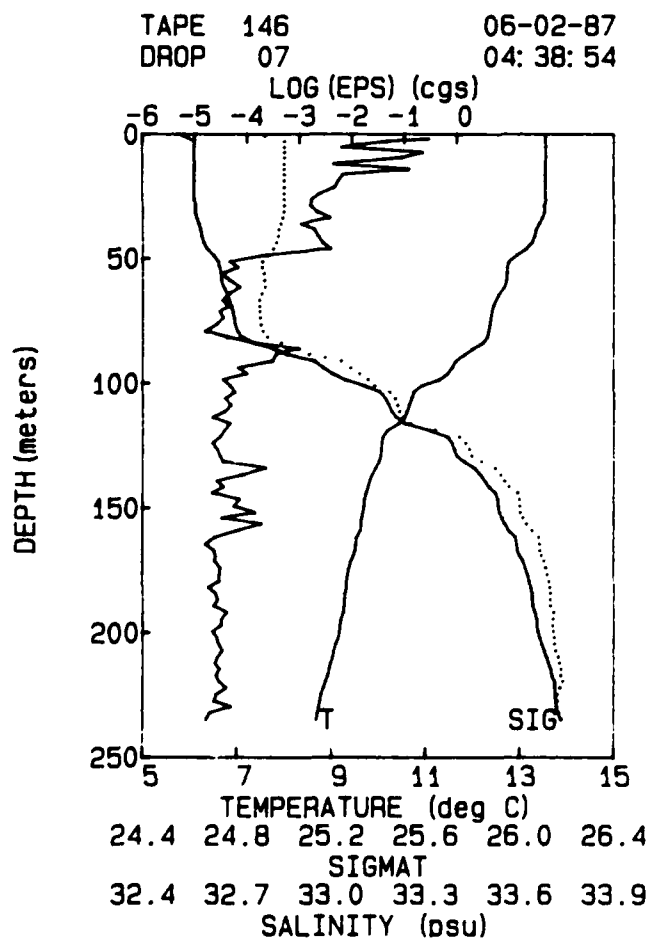
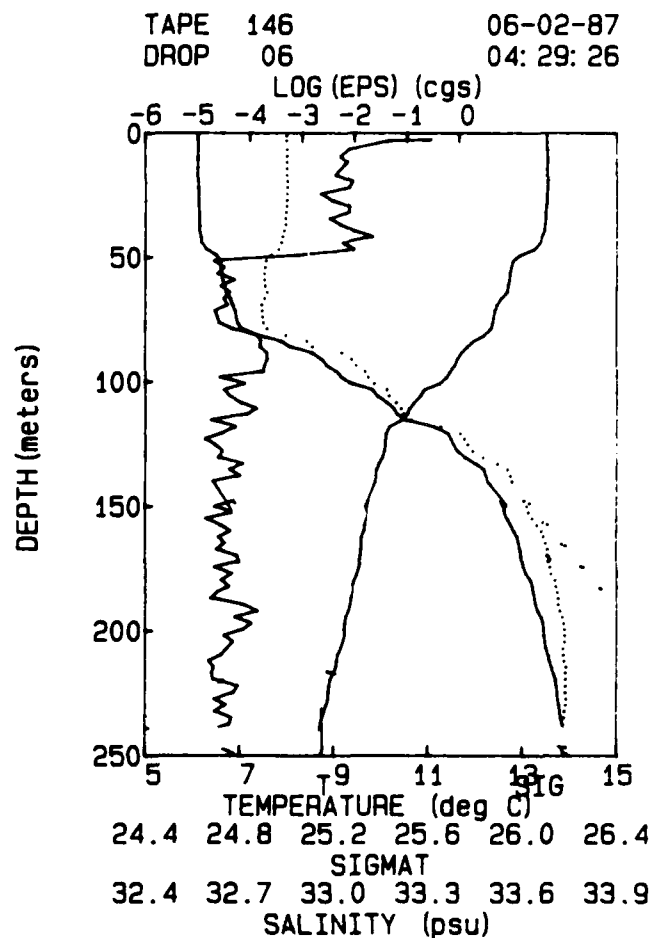
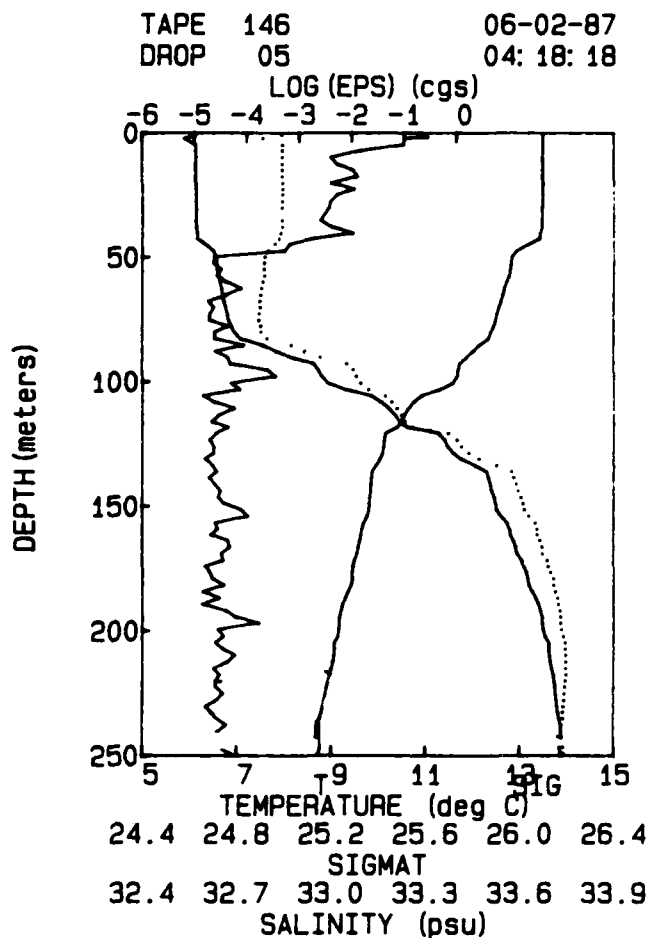
TAPE 145 06-02-87
DROP 54 02: 43: 33



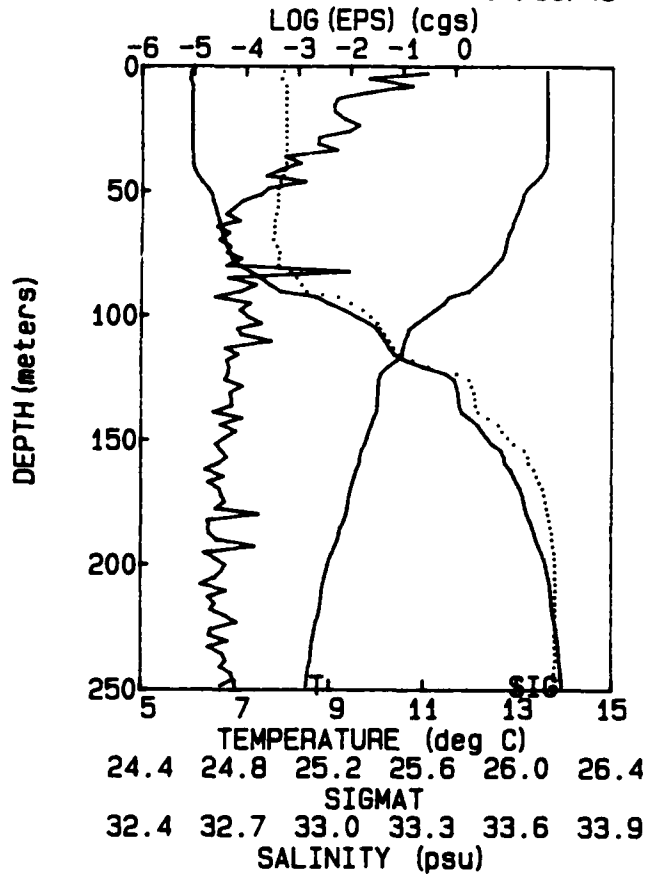
TAPE 145 06-02-87
DROP 56 03: 06: 45



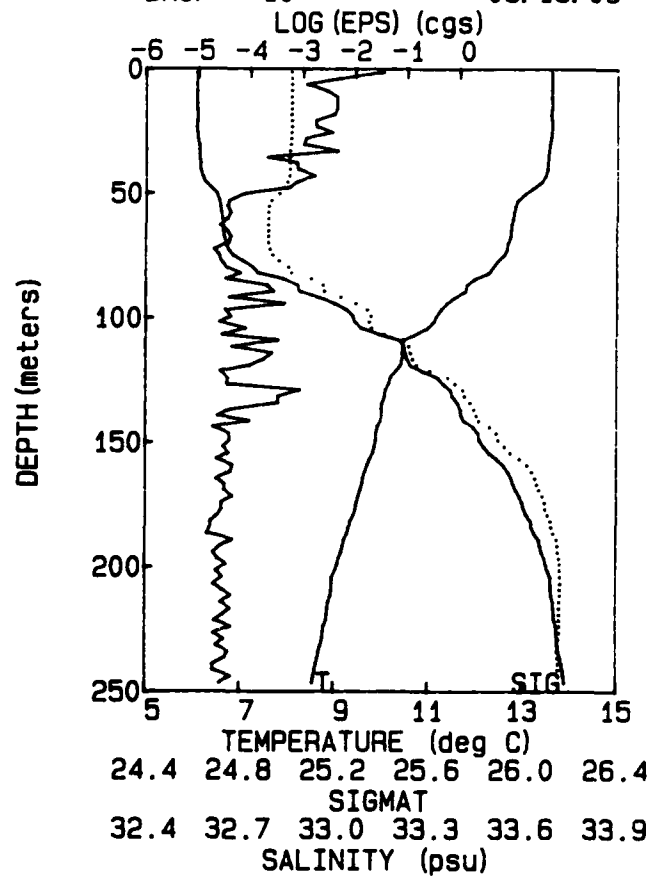




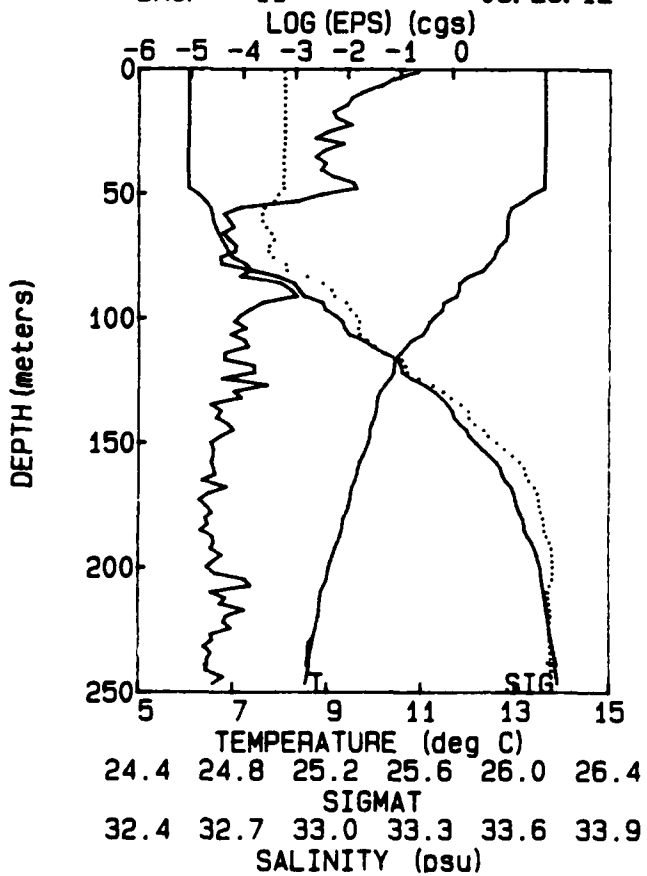
TAPE 146 06-02-87
DROP 09 04: 59: 45



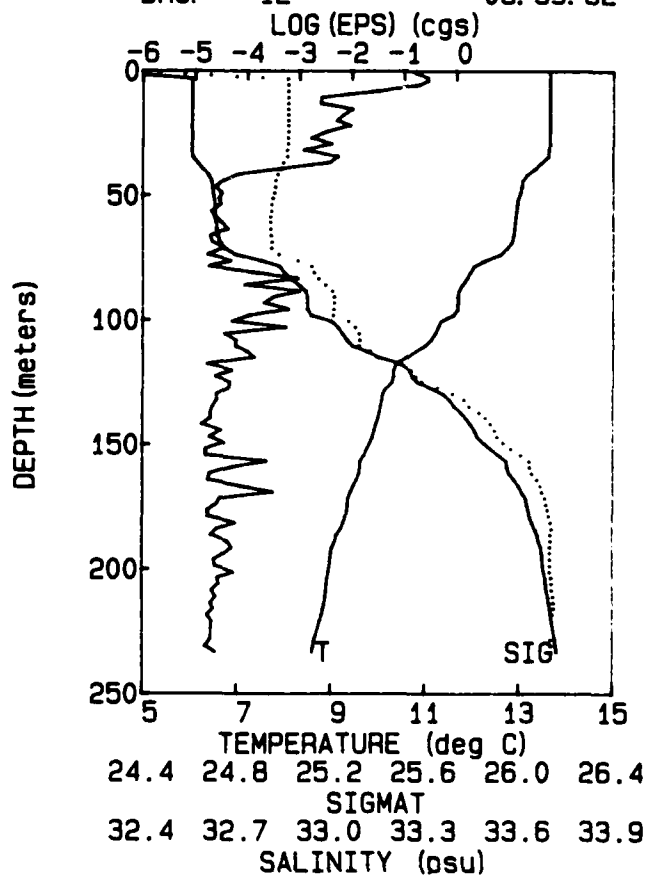
TAPE 146 06-02-87
DROP 10 05: 18: 09

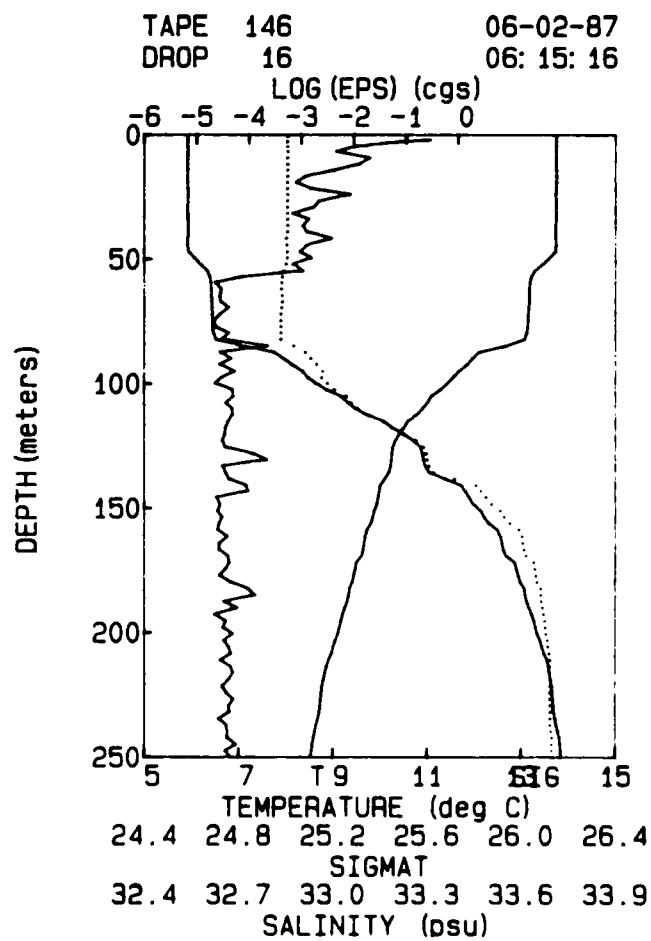
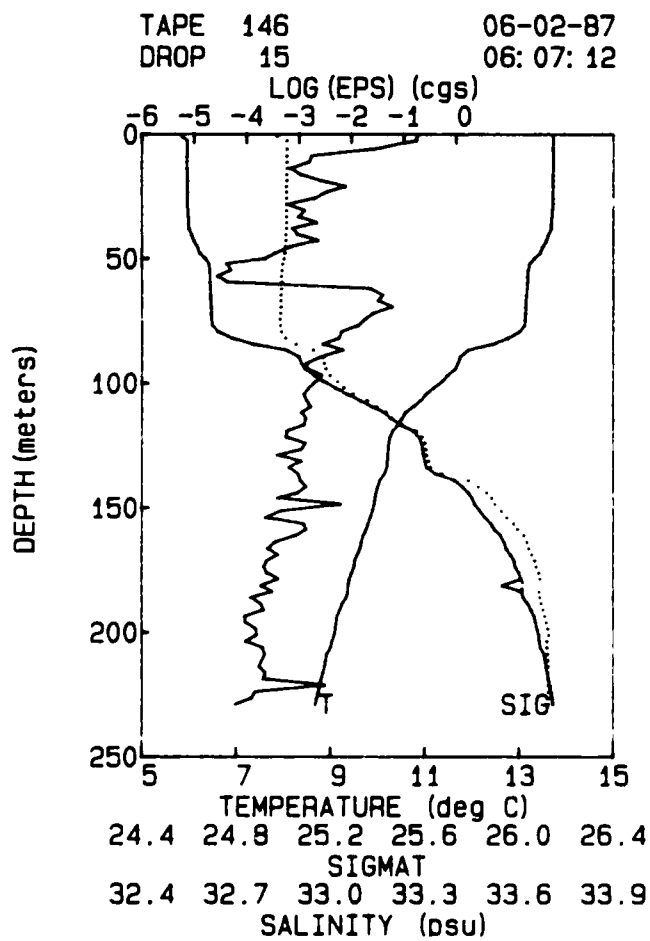


TAPE 146 06-02-87
DROP 11 05: 26: 12

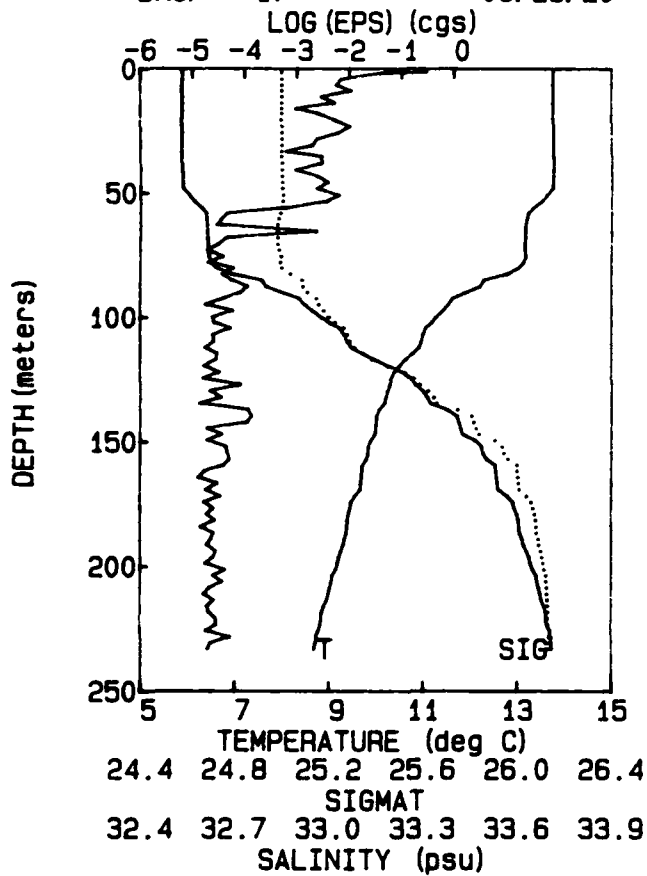


TAPE 146 06-02-87
DROP 12 05: 39: 52

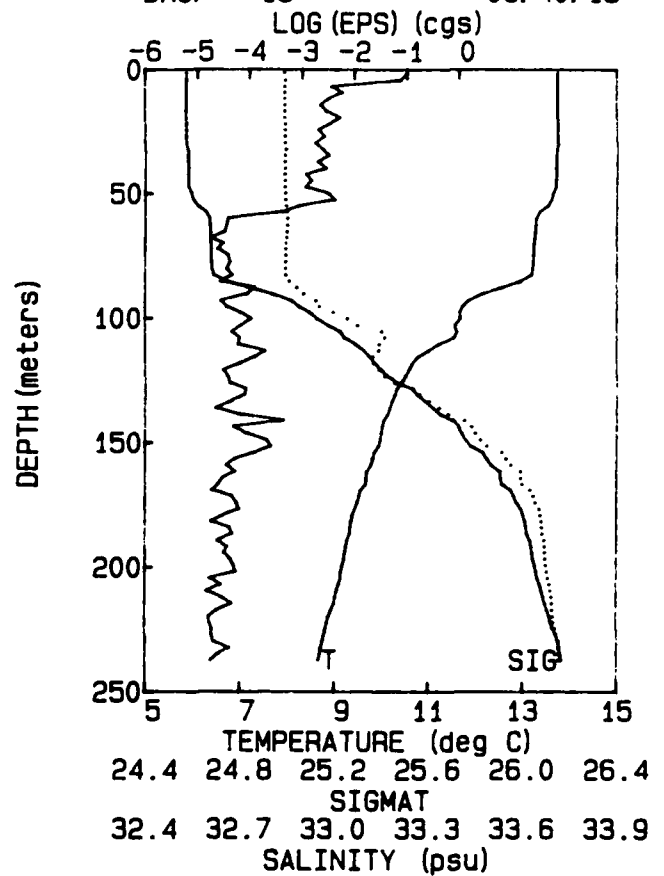




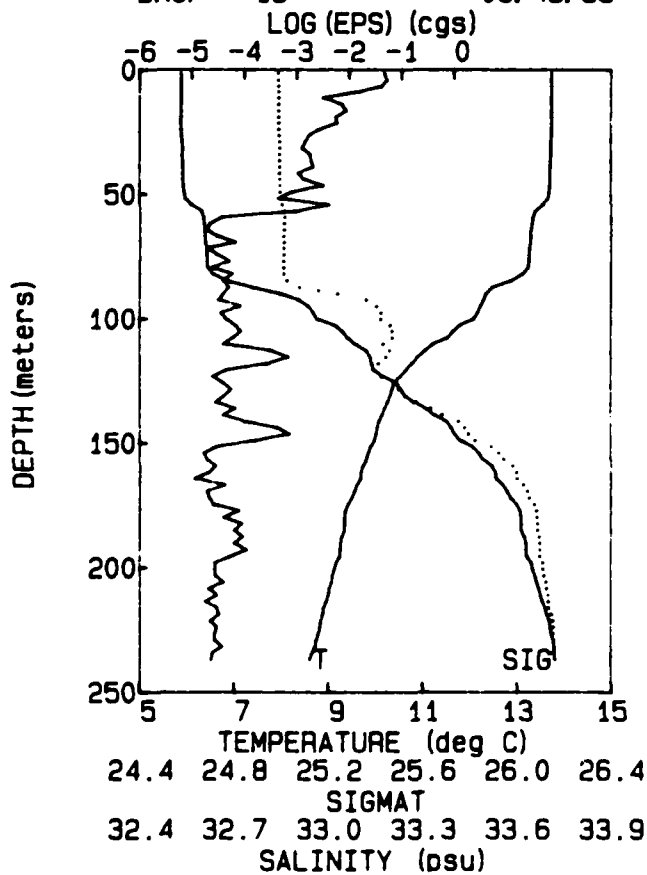
TAPE 146 06-02-87
DROP 17 06: 25: 20



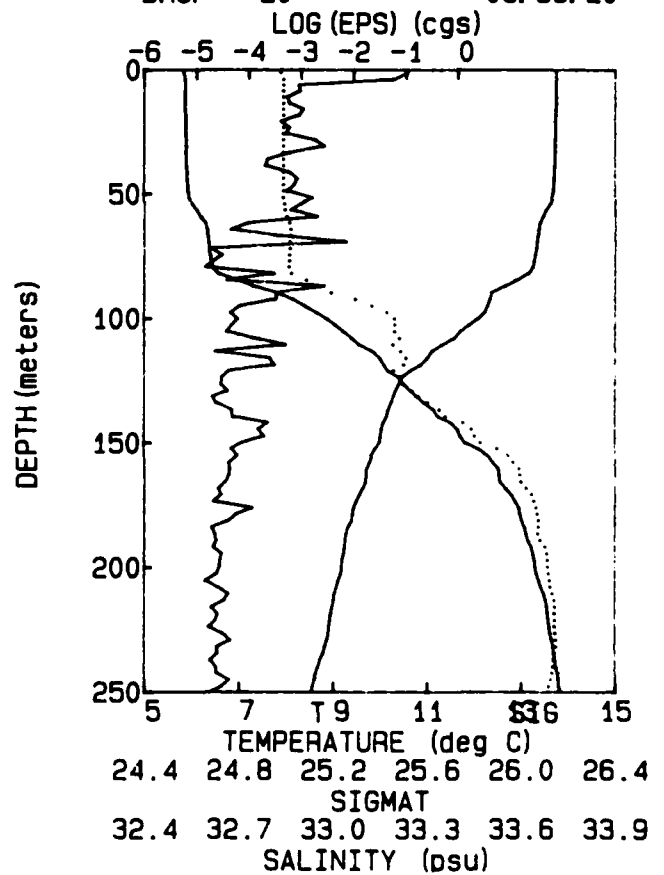
TAPE 146 06-02-87
DROP 18 06: 40: 15



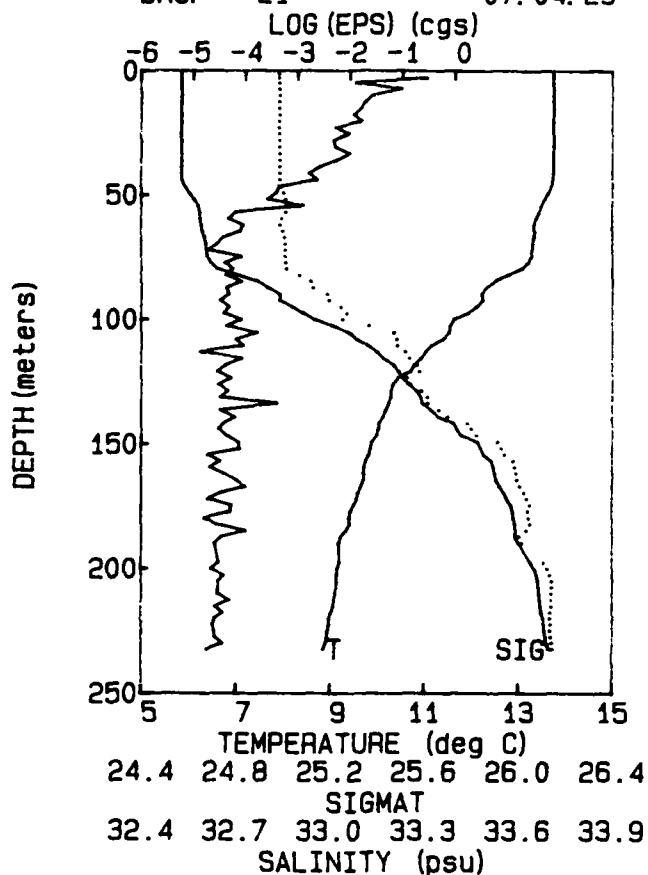
TAPE 146 06-02-87
DROP 19 06: 48: 33



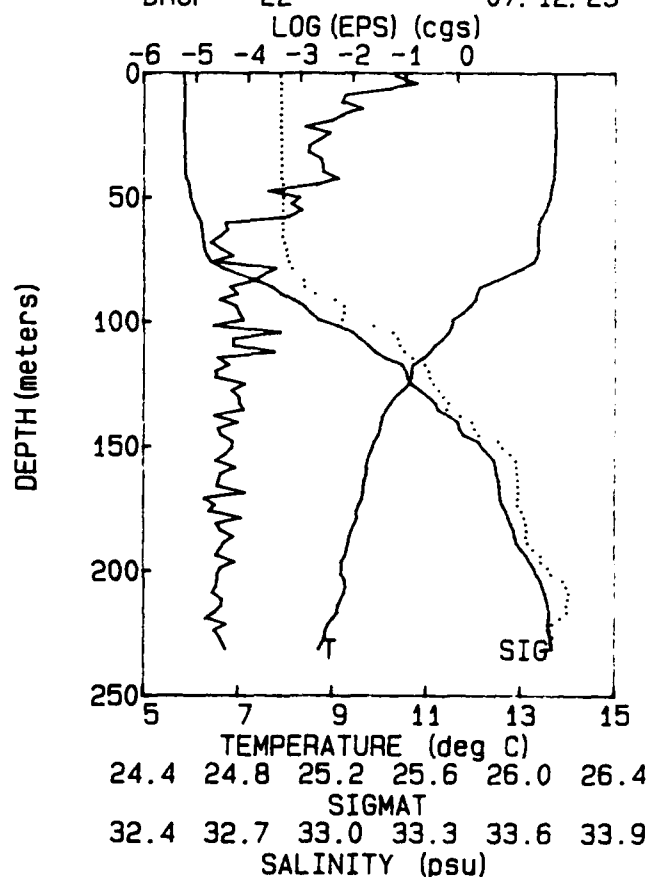
TAPE 146 06-02-87
DROP 20 06: 56: 20



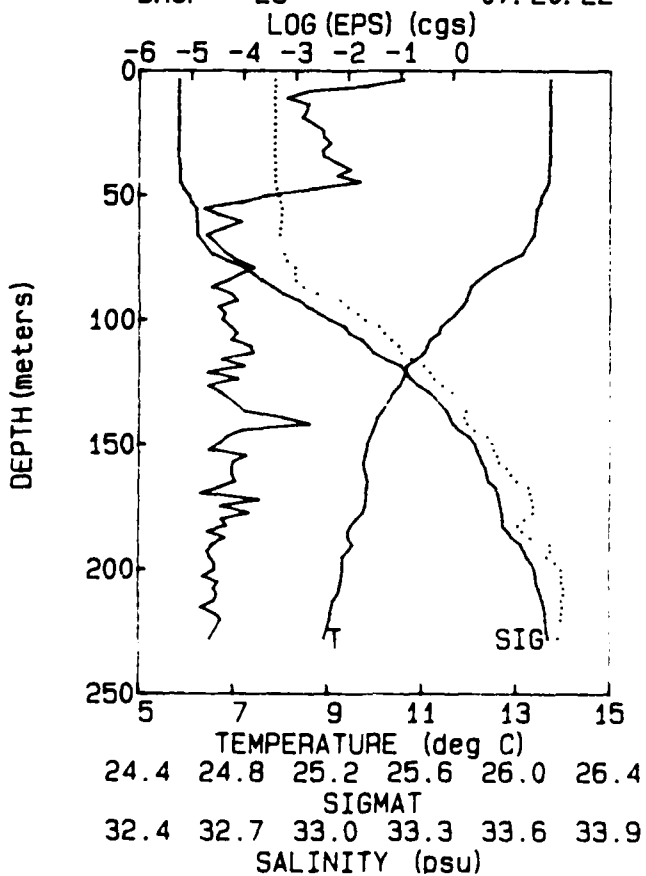
TAPE 146 06-02-87
DROP 21 07:04:29



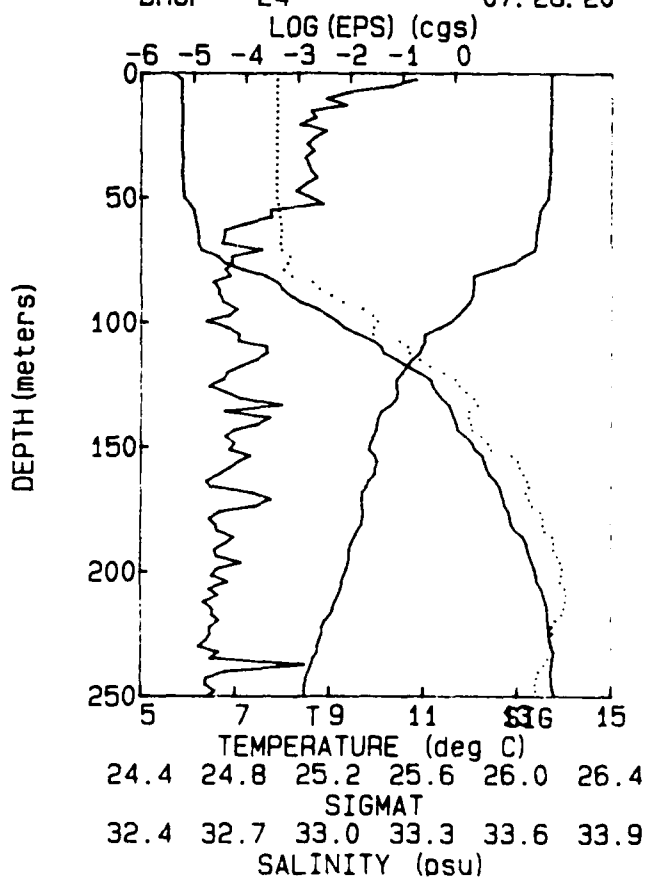
TAPE 146 06-02-87
DROP 22 07:12:25



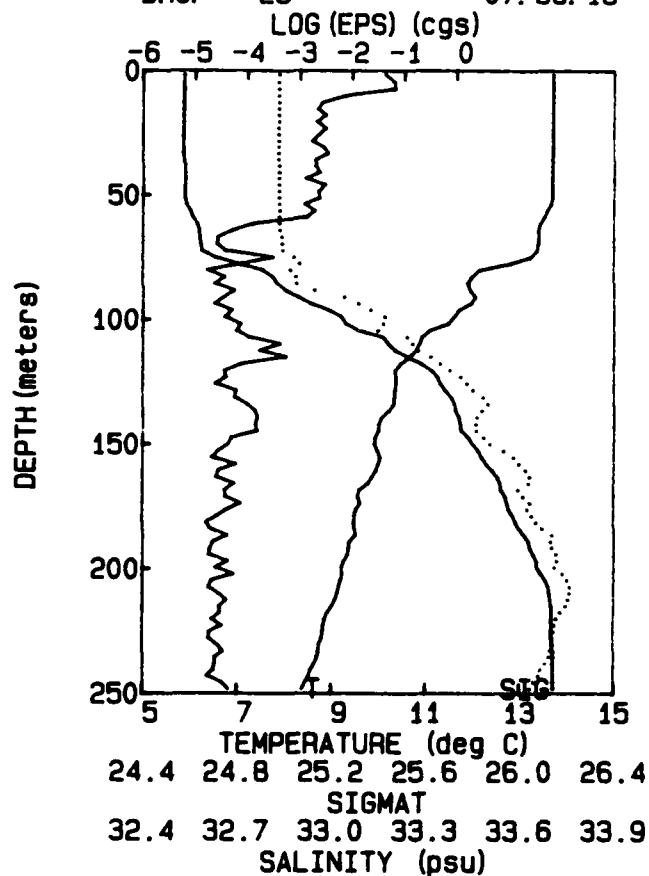
TAPE 146 06-02-87
DROP 23 07:20:22



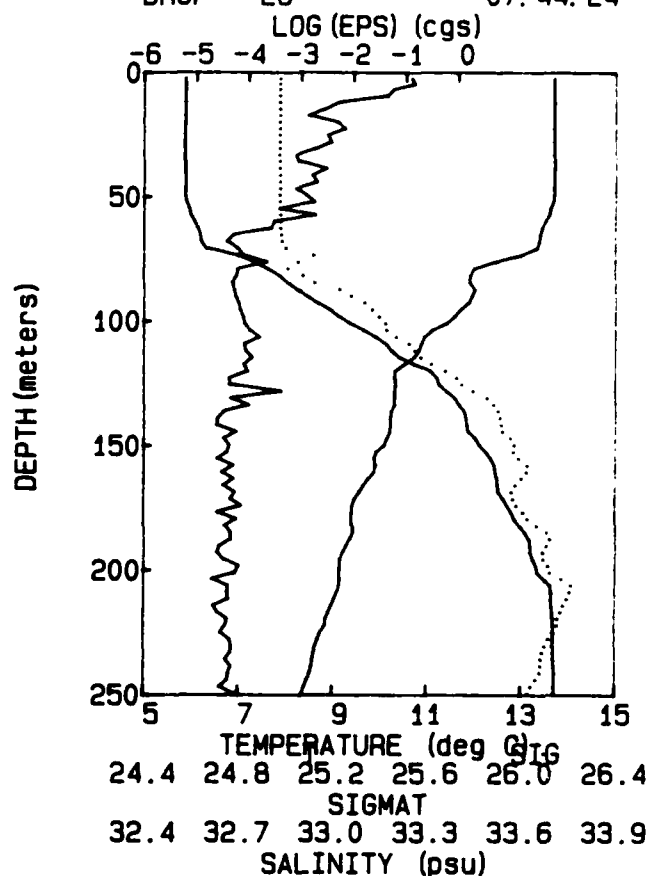
TAPE 146 06-02-87
DROP 24 07:28:20



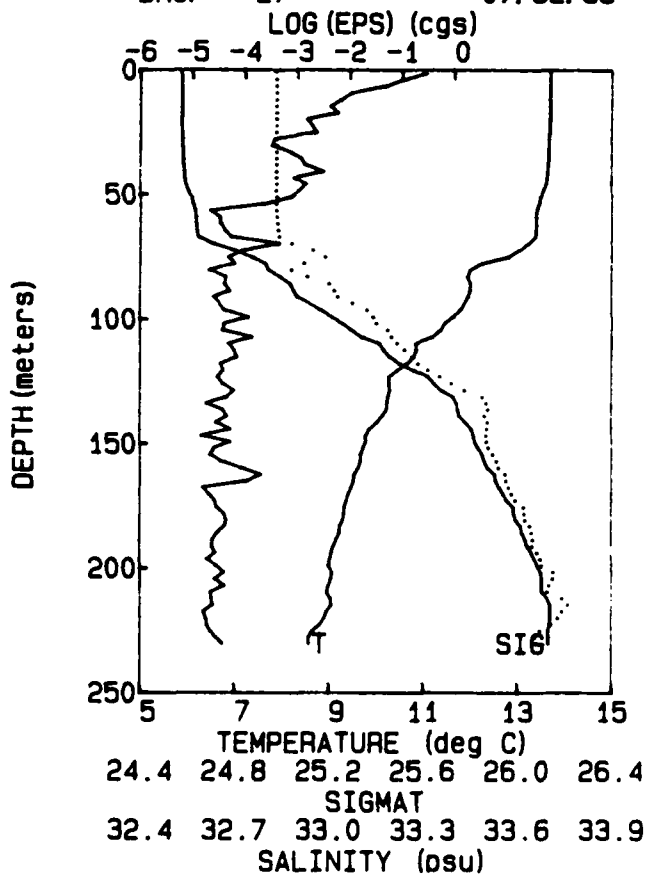
TAPE 146 06-02-87
DROP 25 07:36:18



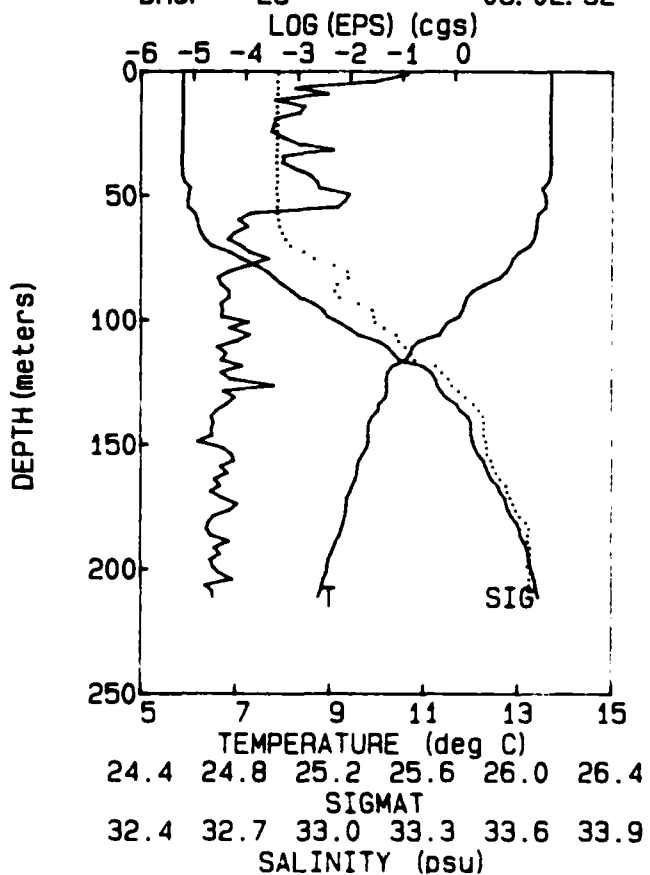
TAPE 146 06-02-87
DROP 26 07:44:24



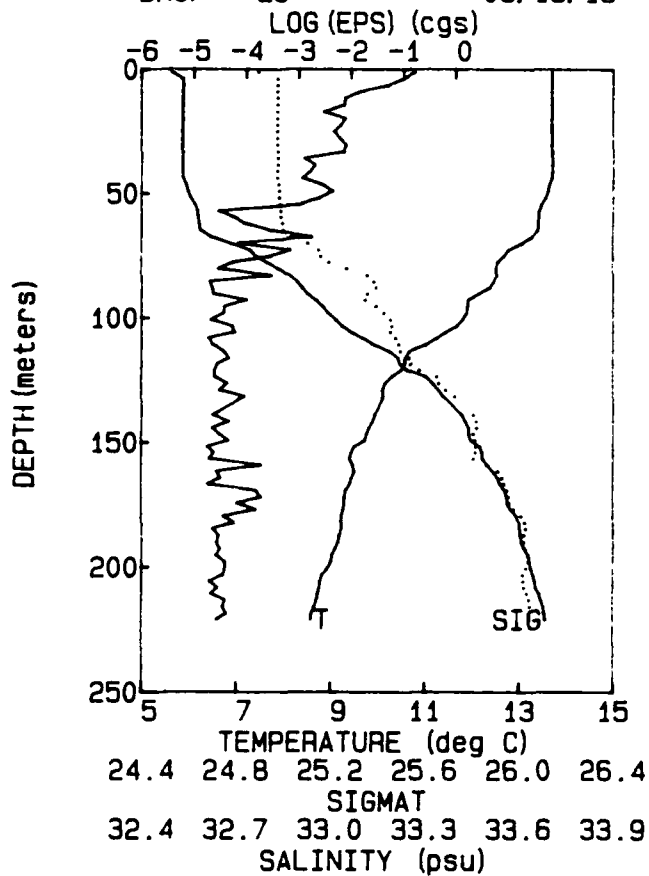
TAPE 146 06-02-87
DROP 27 07:52:38



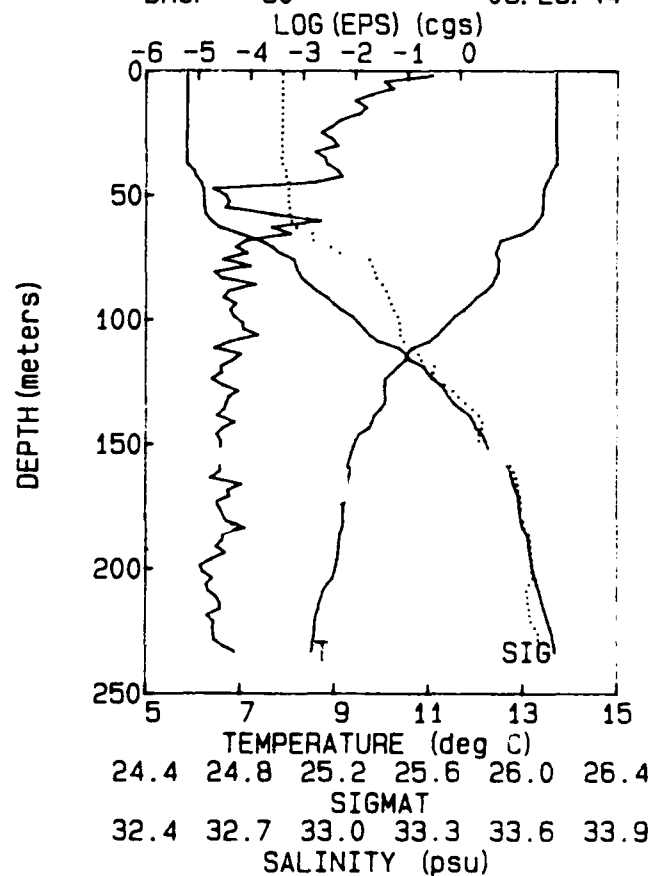
TAPE 146 06-02-87
DROP 28 08:02:32



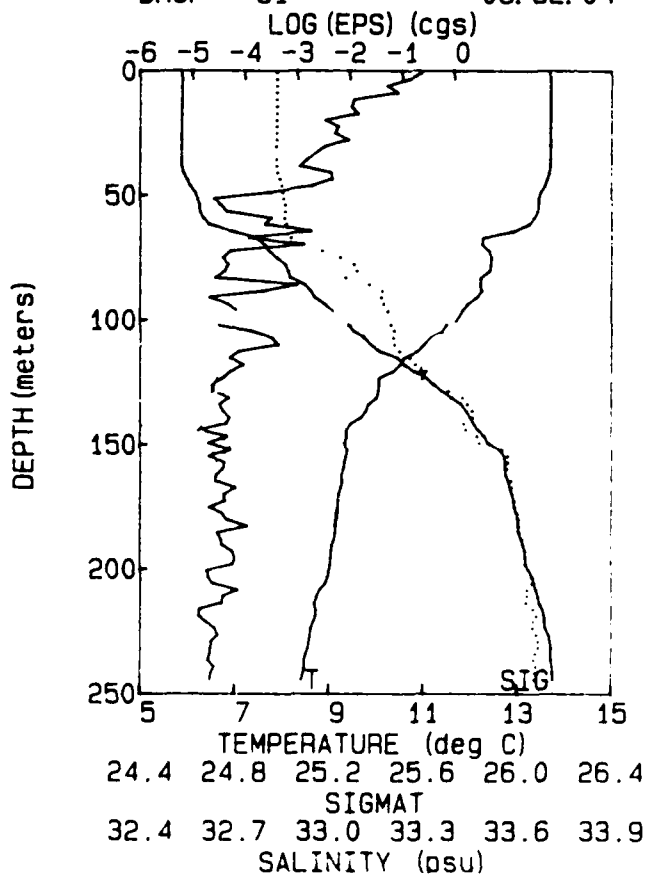
TAPE 146 06-02-87
DROP 29 08:13:18



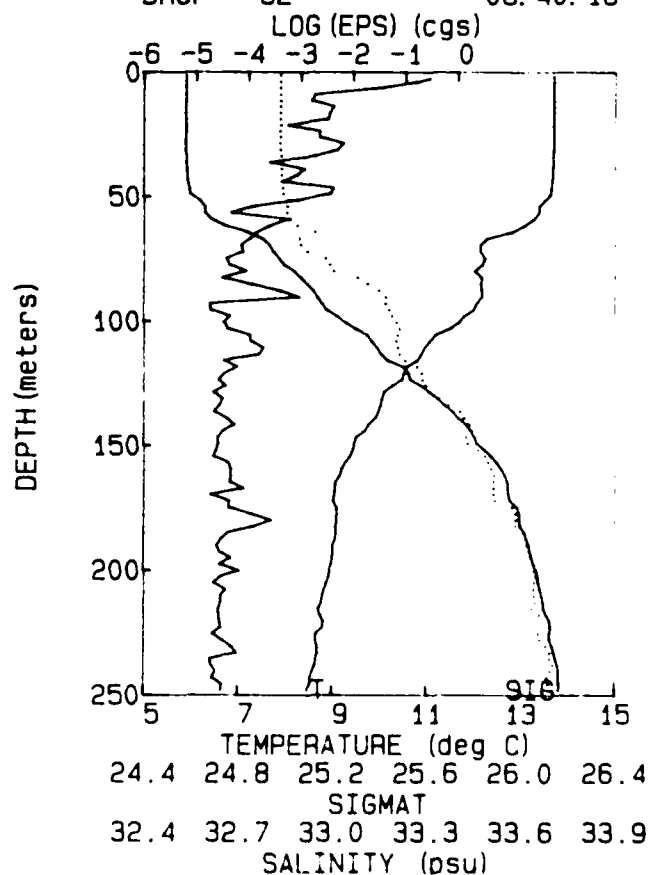
TAPE 146 06-02-87
DROP 30 08:23:44



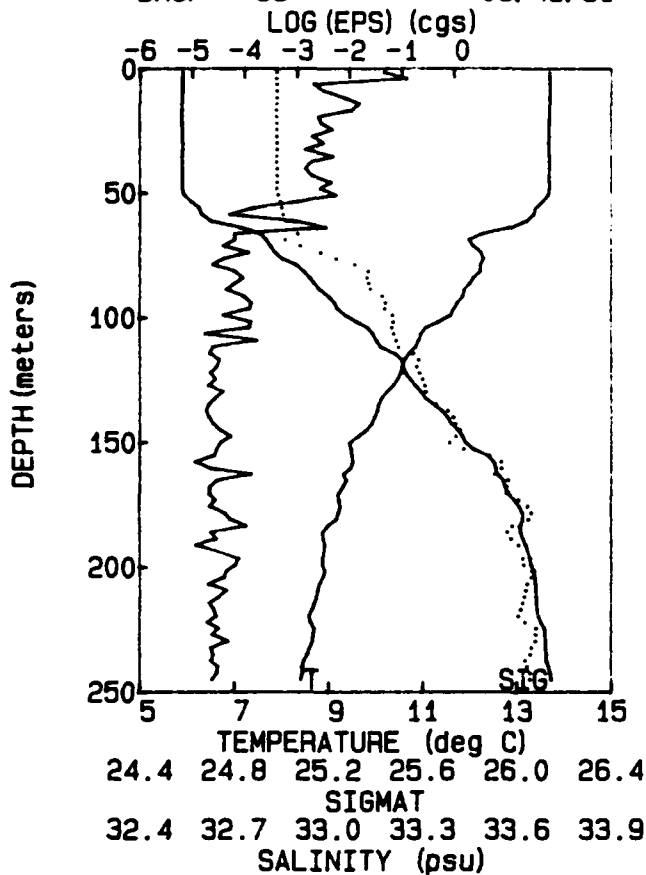
TAPE 146 06-02-87
DROP 31 08:32:04



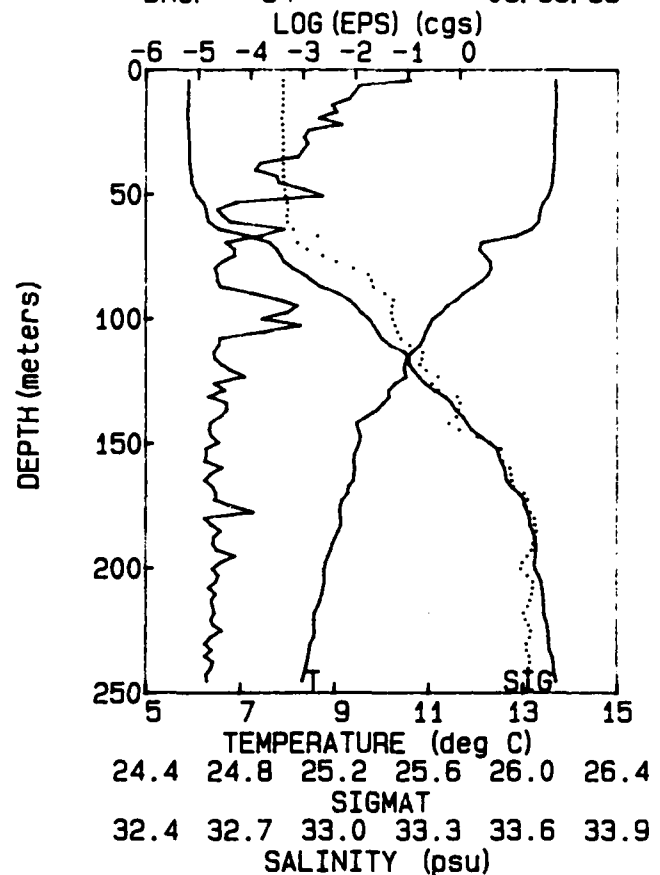
TAPE 146 06-02-87
DROP 32 08:40:16



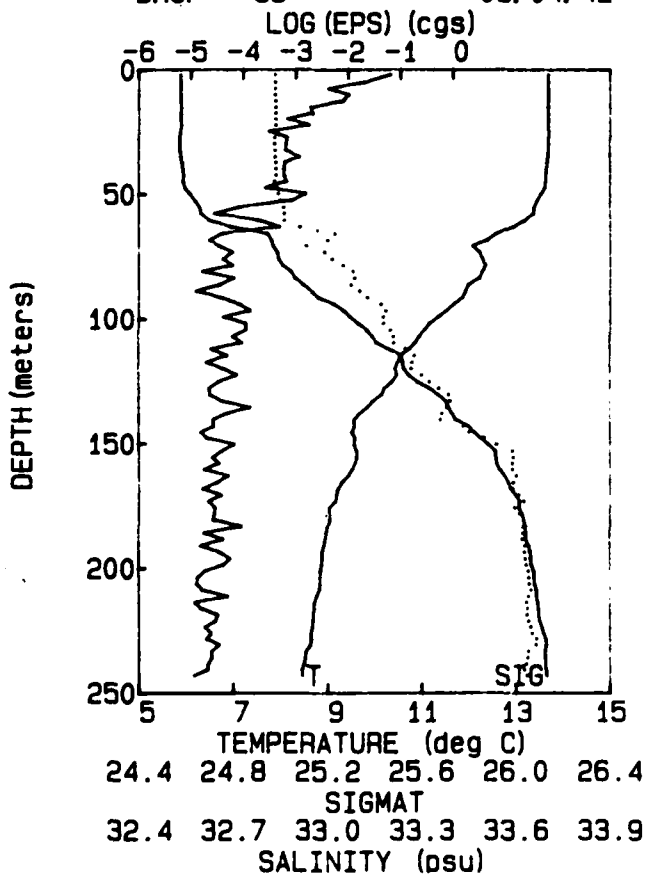
TAPE 146 06-02-87
DROP 33 08: 48: 31



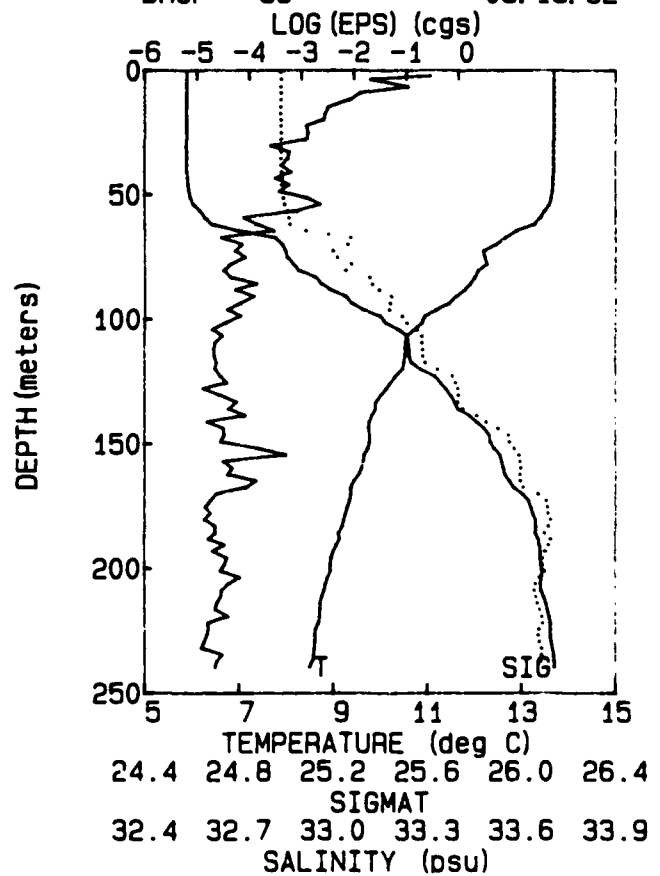
TAPE 146 06-02-87
DROP 34 08: 56: 38



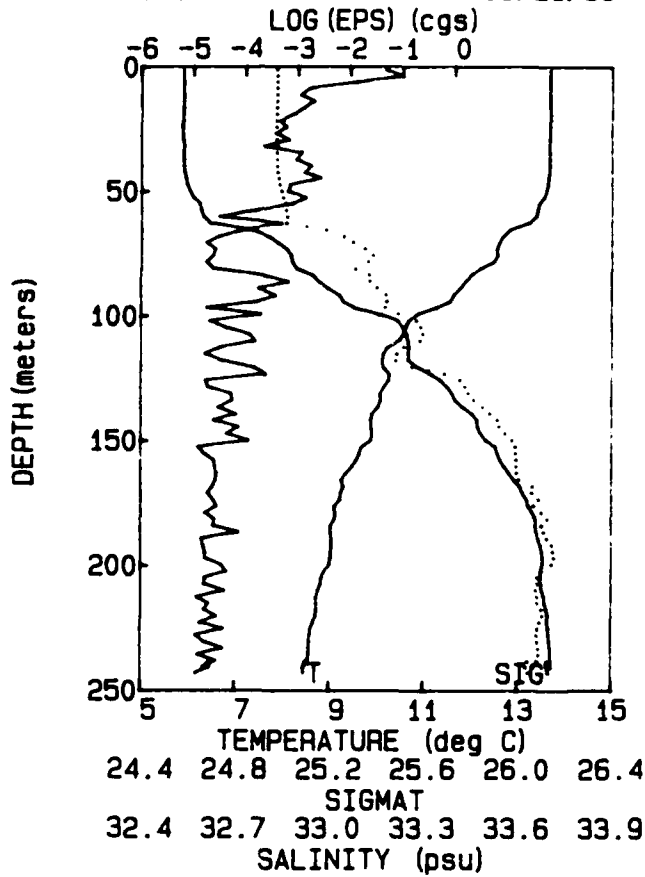
TAPE 146 06-02-87
DROP 35 09: 04: 42



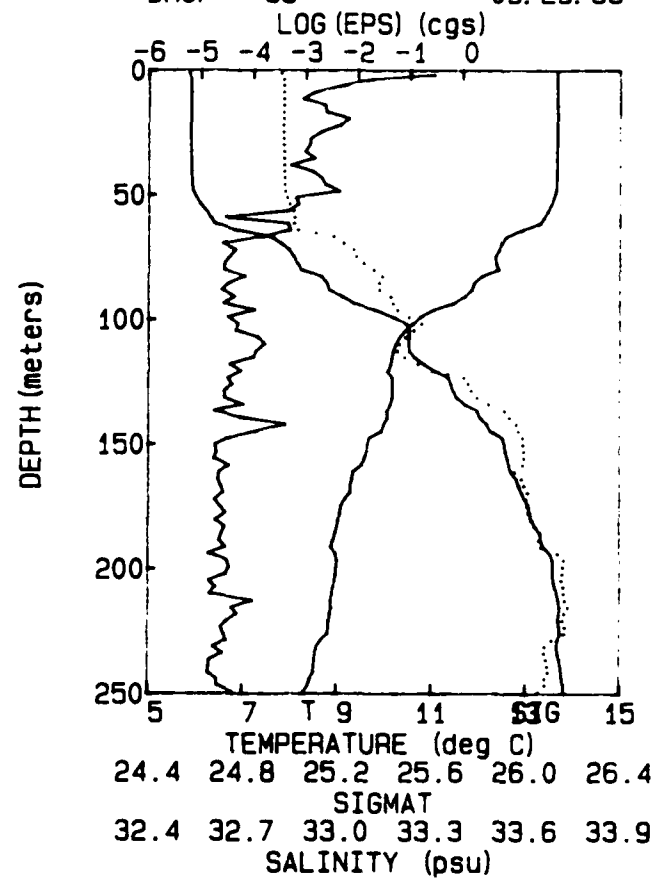
TAPE 146 06-02-87
DROP 36 09: 13: 32



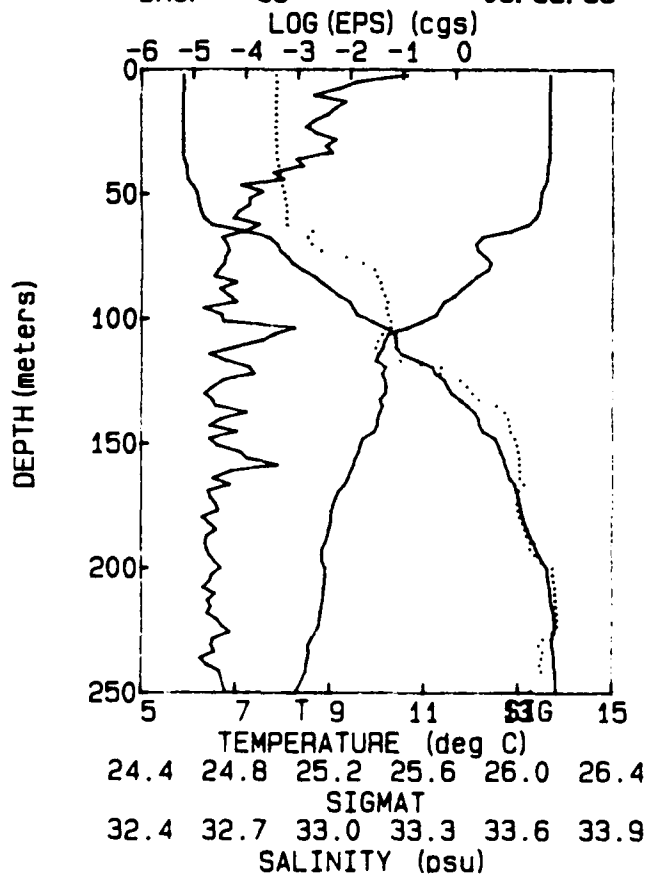
TAPE 146 06-02-87
 DROP 37 09: 21: 35



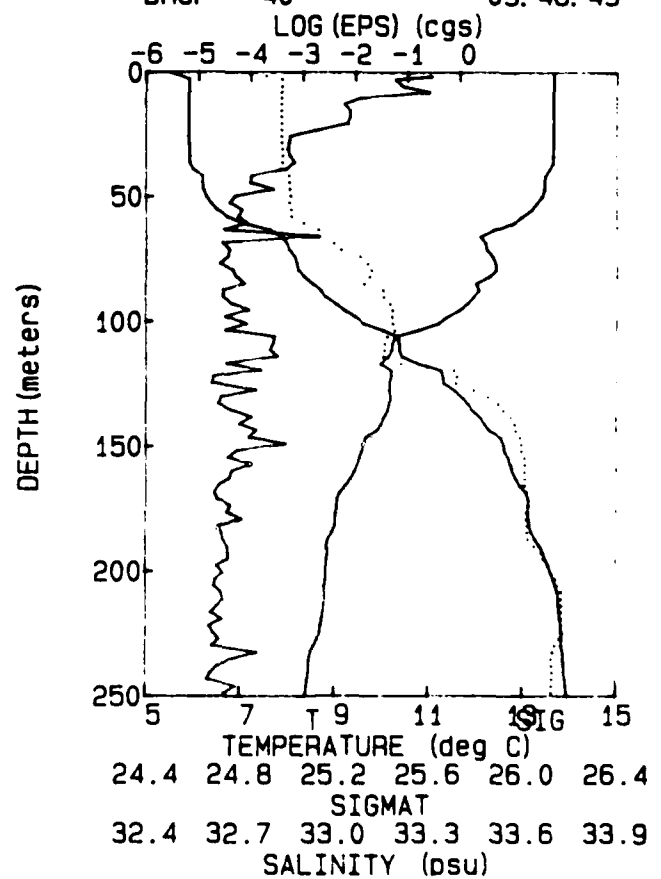
TAPE 146 06-02-87
 DROP 38 09: 29: 53



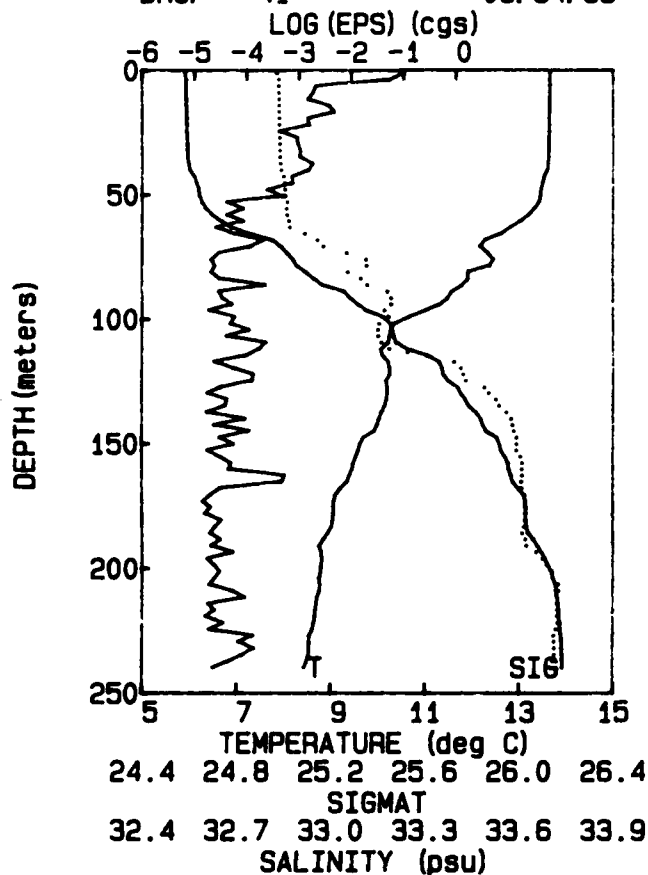
TAPE 146 06-02-87
 DROP 39 09: 38: 35



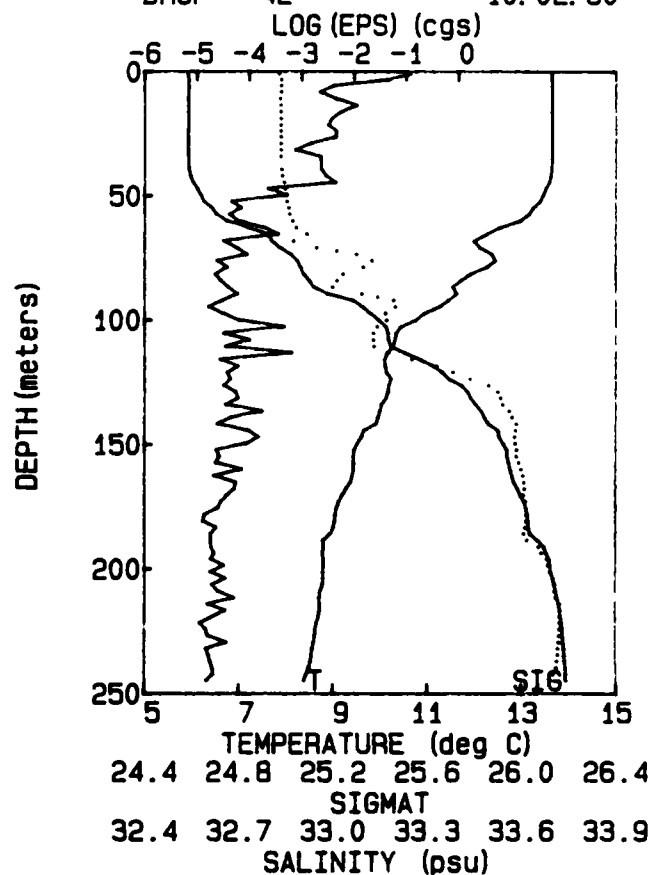
TAPE 146 06-02-87
 DROP 40 09: 46: 49



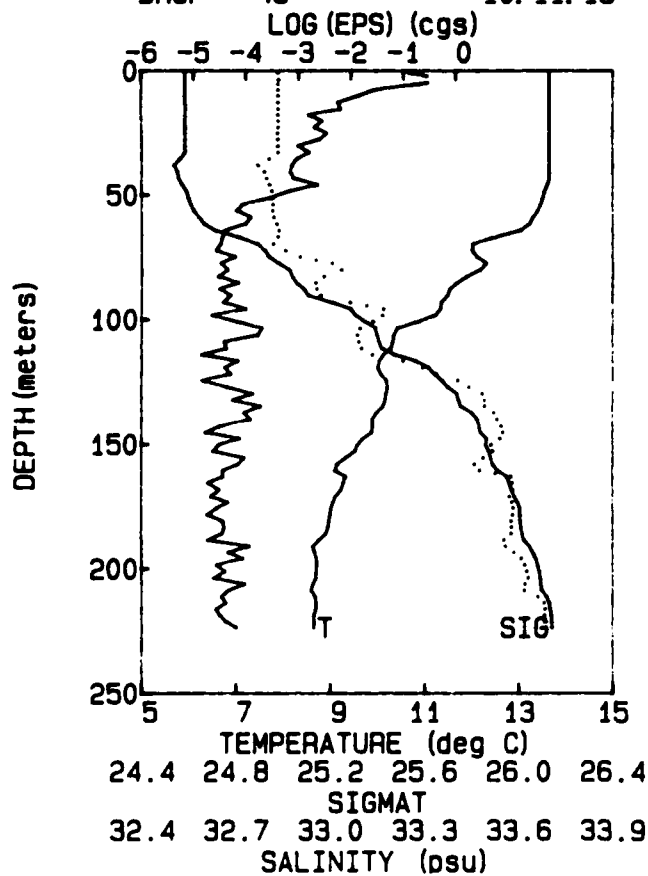
TAPE 146 06-02-87
DROP 41 09: 54: 55



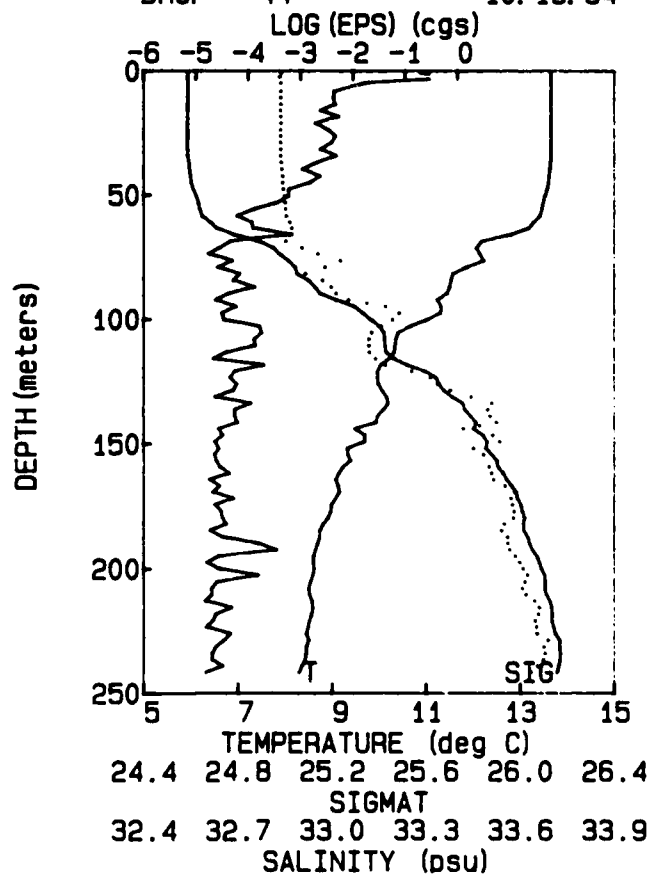
TAPE 146 06-02-87
DROP 42 10: 02: 50



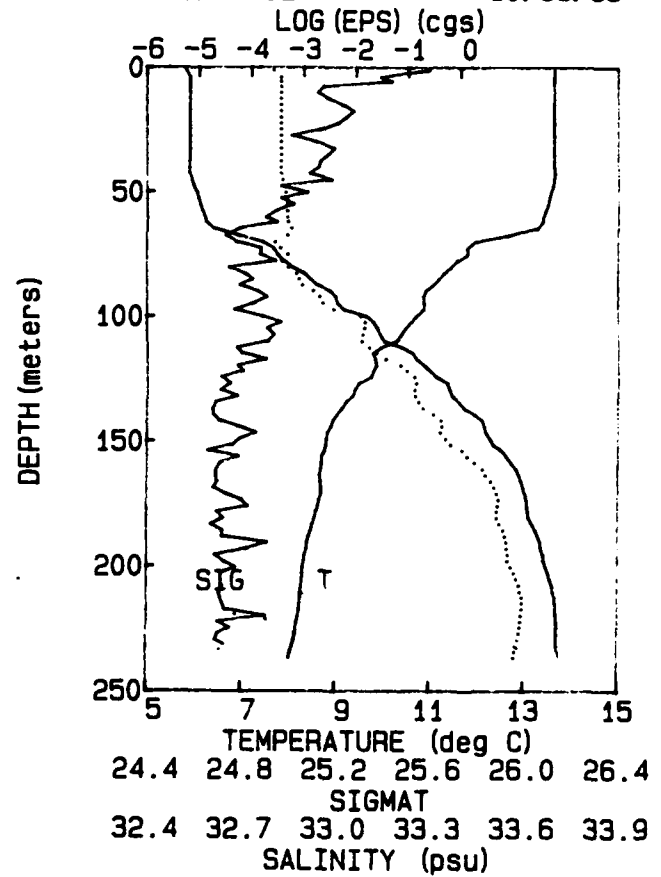
TAPE 146 06-02-87
DROP 43 10: 11: 15



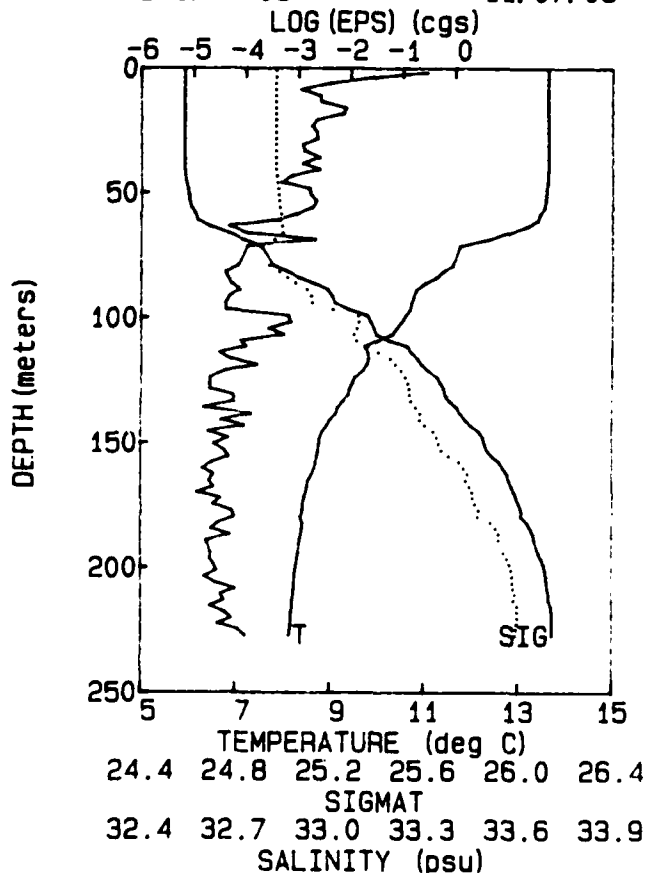
TAPE 146 06-02-87
DROP 44 10: 19: 34



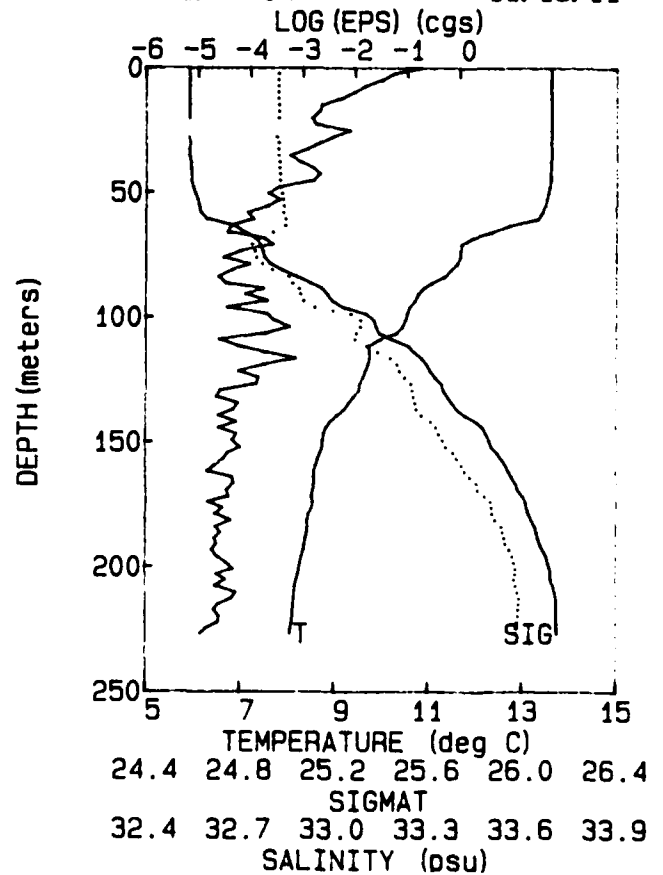
TAPE 147 06-02-87
 DROP 02 10: 58: 39



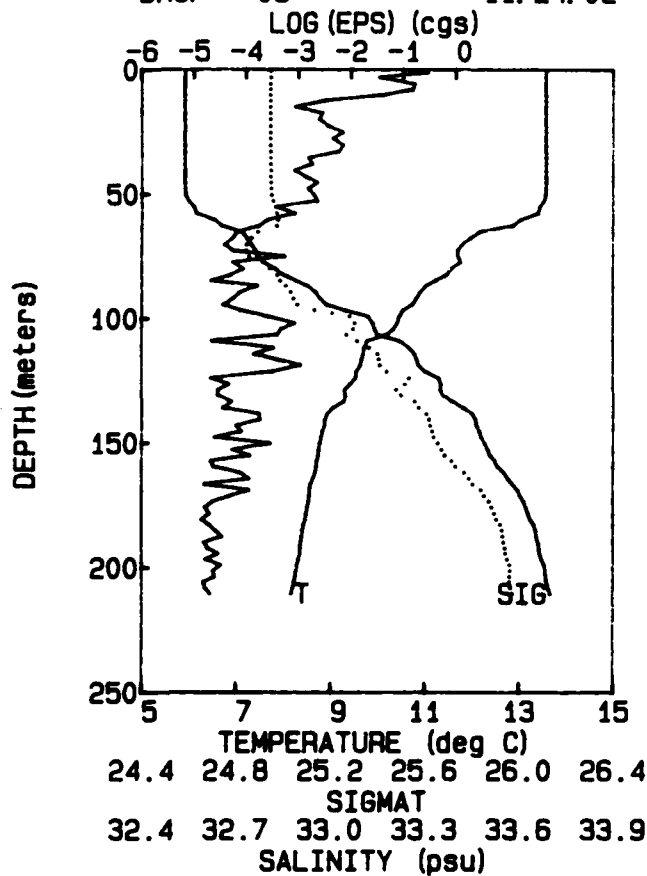
TAPE 147 06-02-87
 DROP 03 11: 07: 03



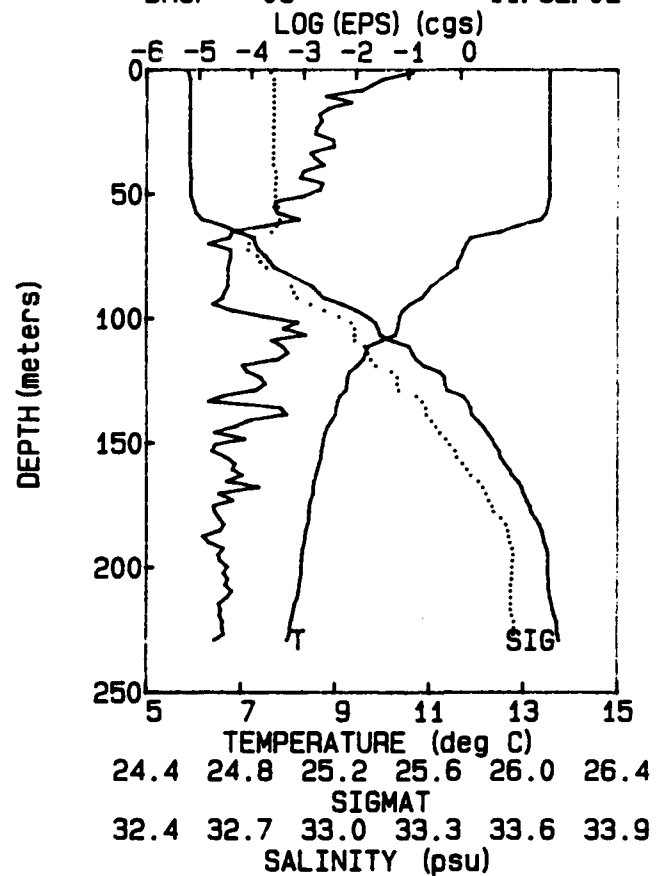
TAPE 147 06-02-87
 DROP 04 11: 15: 11



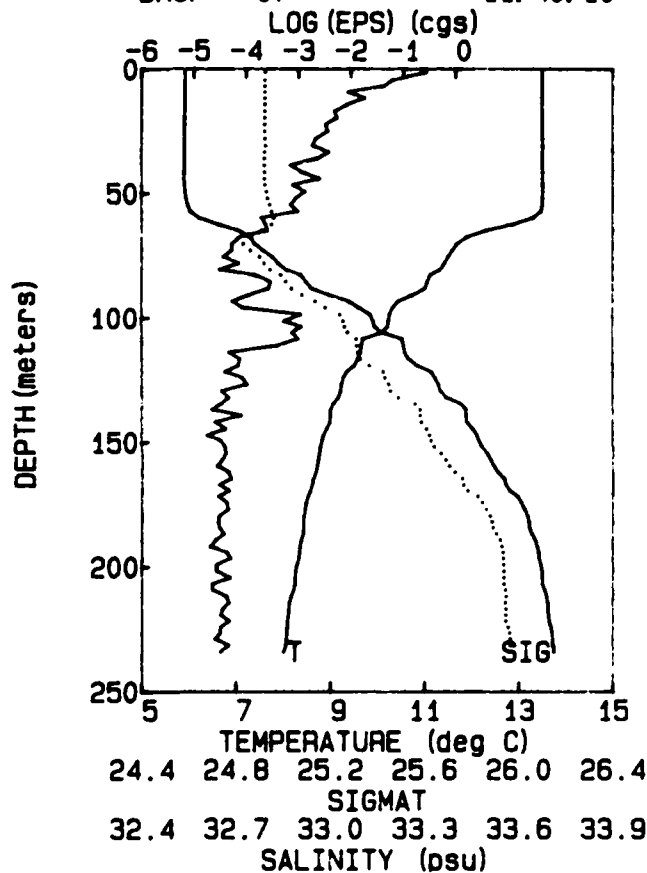
TAPE 147 06-02-87
DROP 05 11: 24: 02



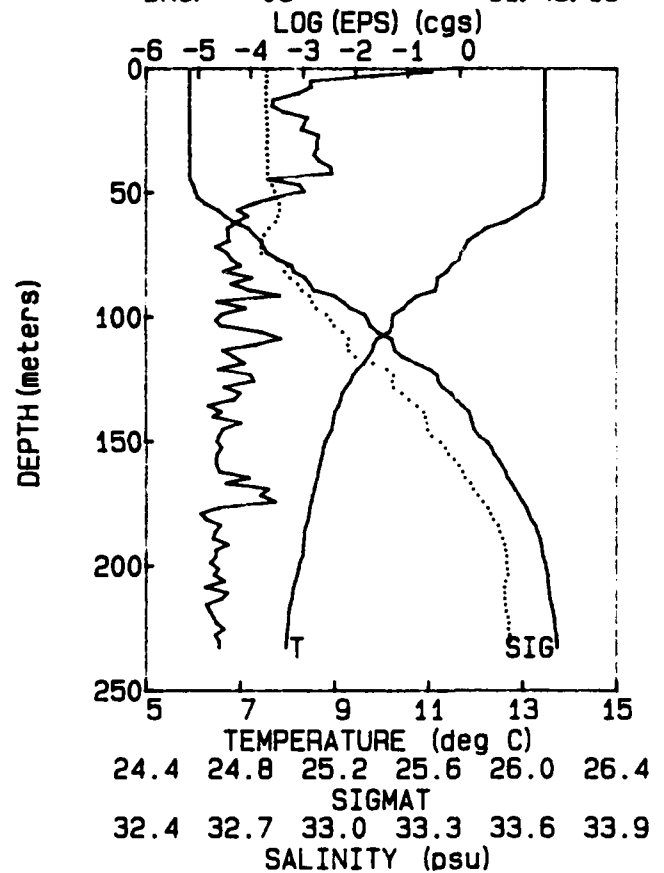
TAPE 147 06-02-87
DROP 06 11: 32: 02

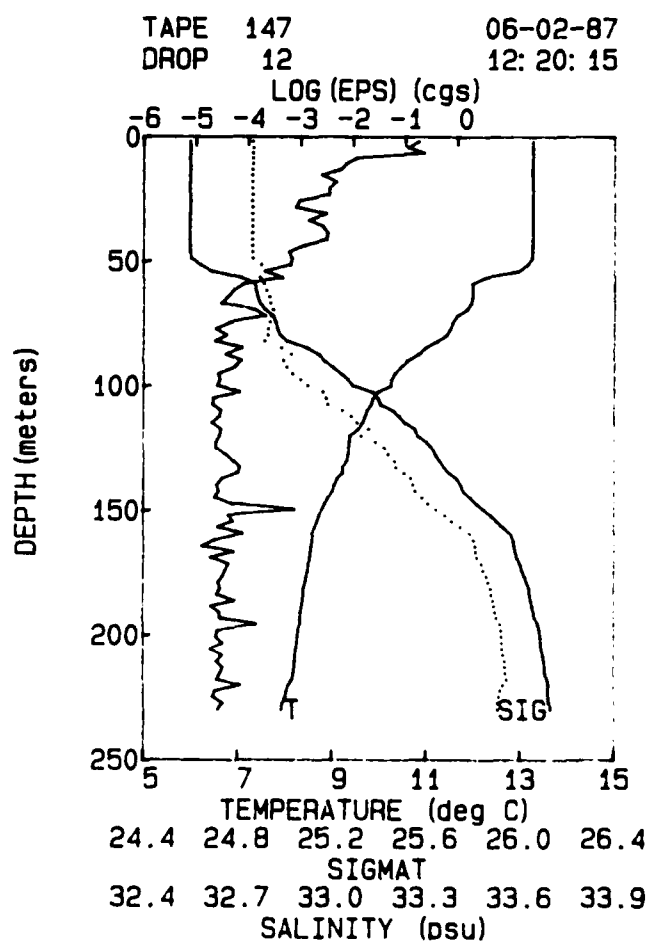
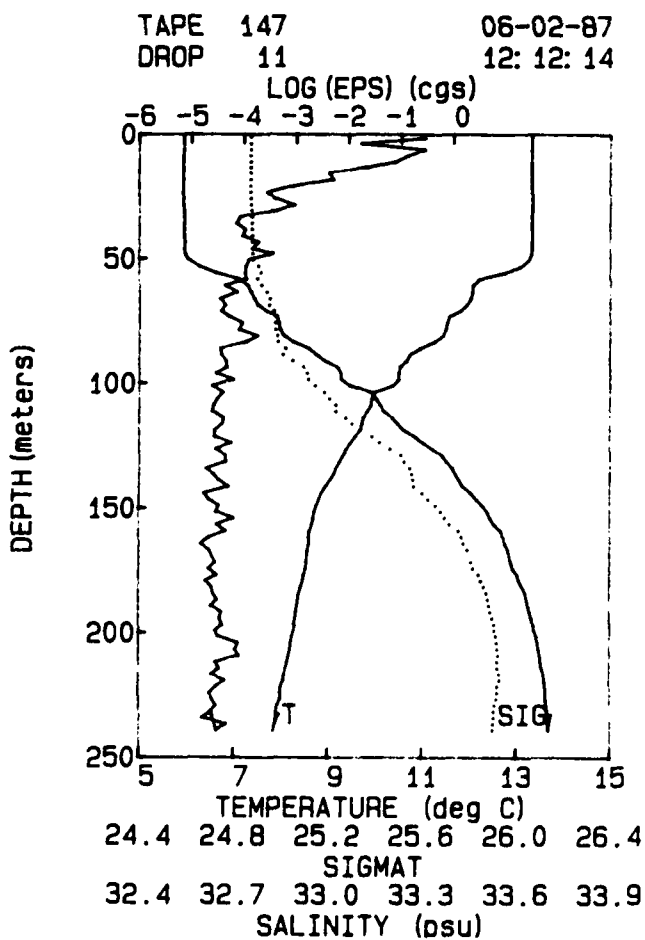
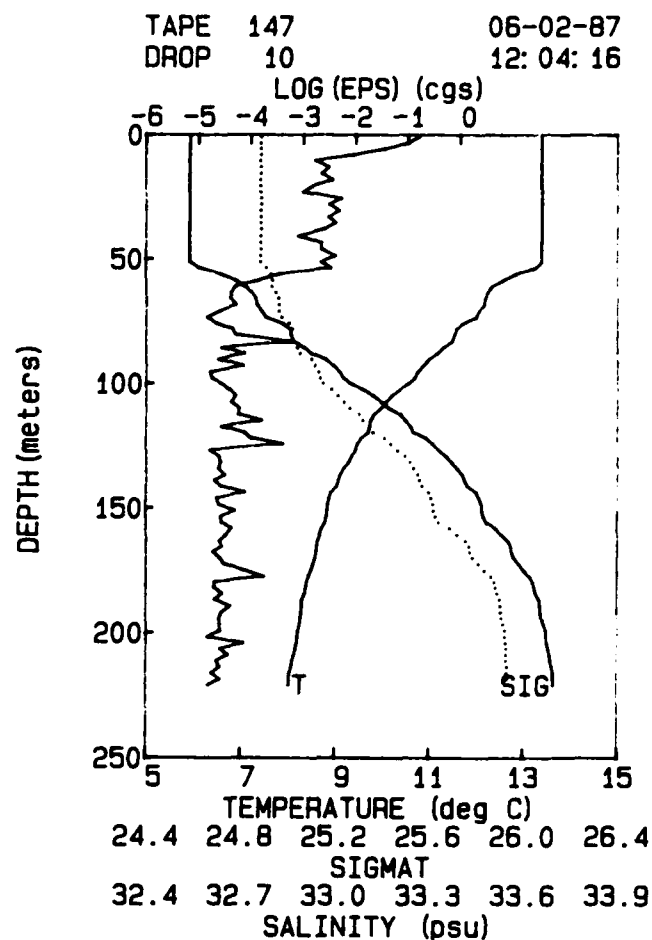
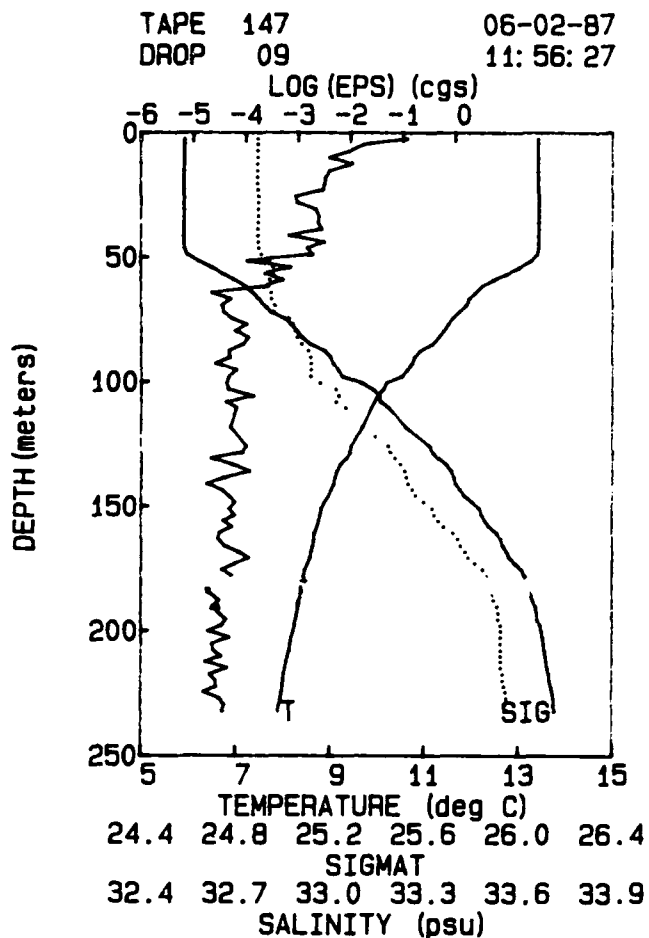


TAPE 147 06-02-87
DROP 07 11: 40: 10

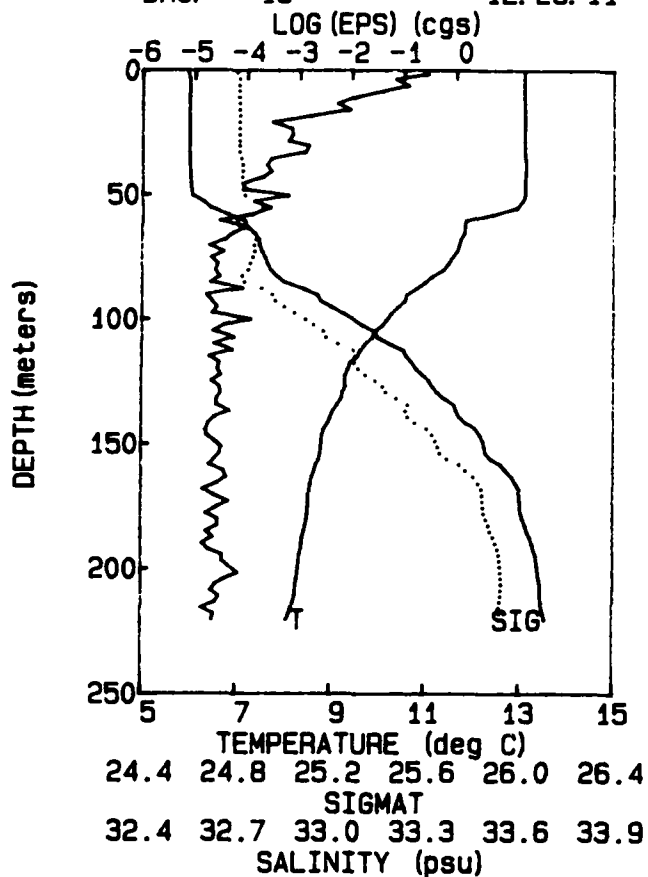


TAPE 147 06-02-87
DROP 08 11: 48: 16

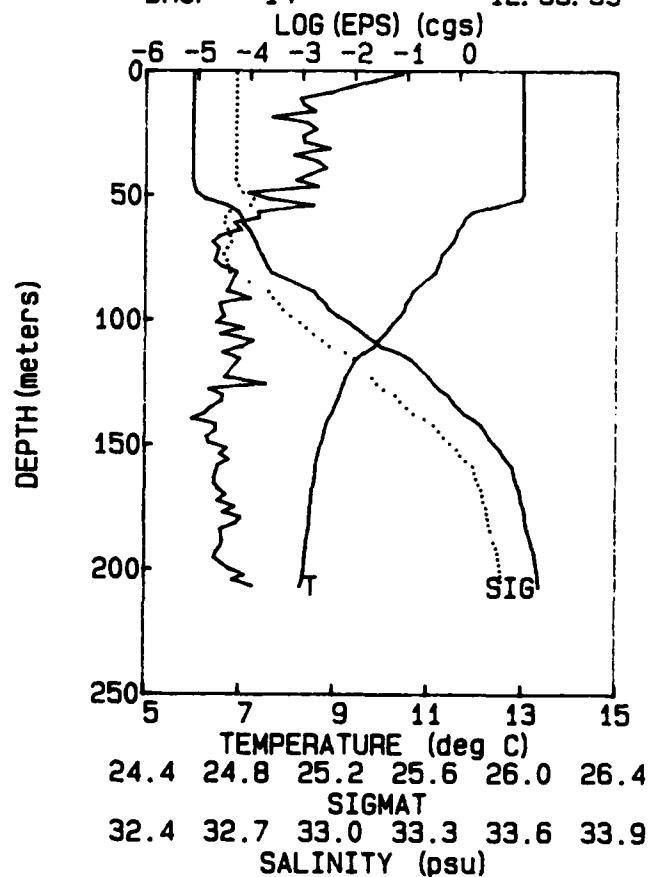




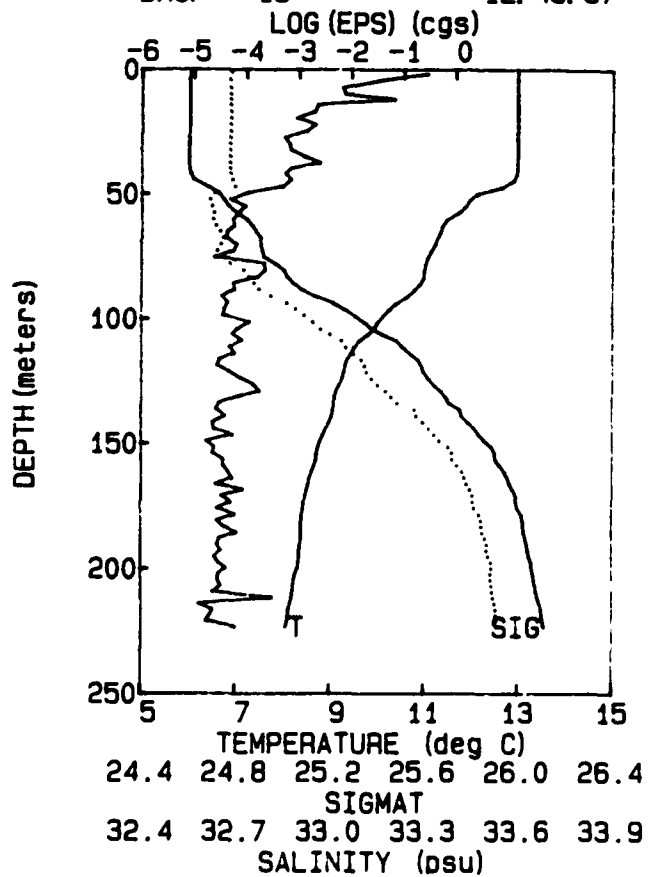
TAPE 147 06-02-87
DROP 13 12: 28: 11



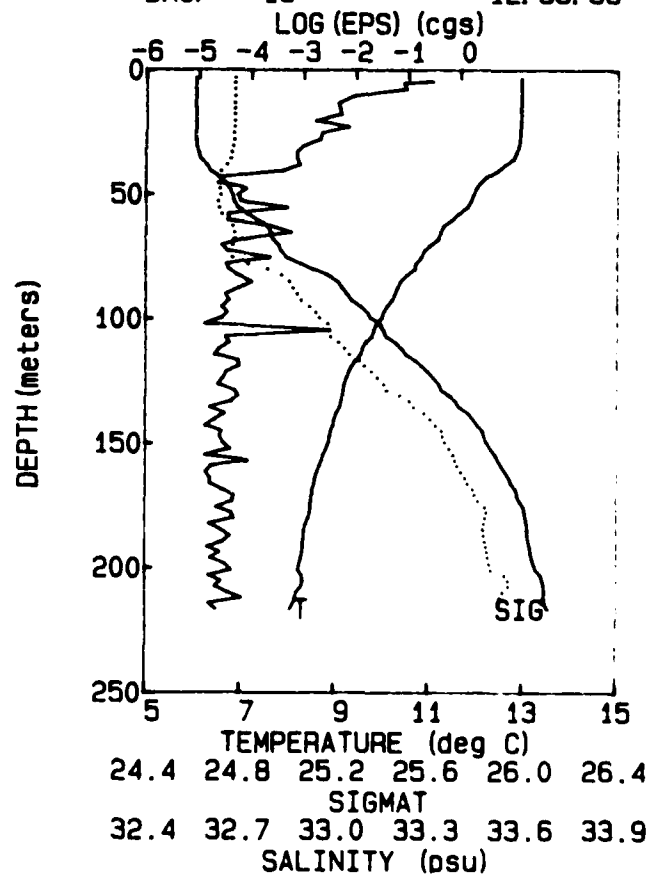
TAPE 147 06-02-87
DROP 14 12: 35: 59



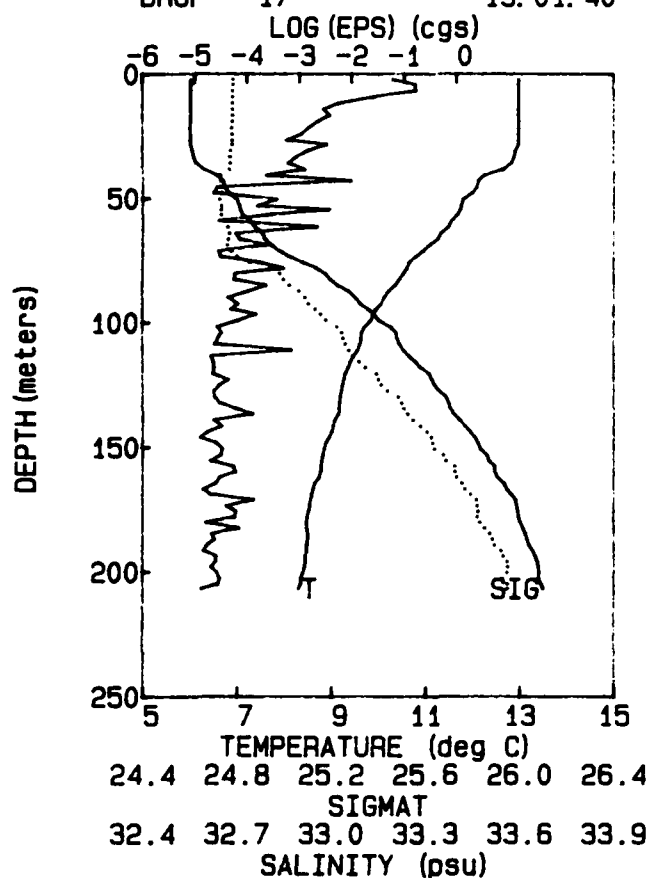
TAPE 147 06-02-87
DROP 15 12: 43: 37



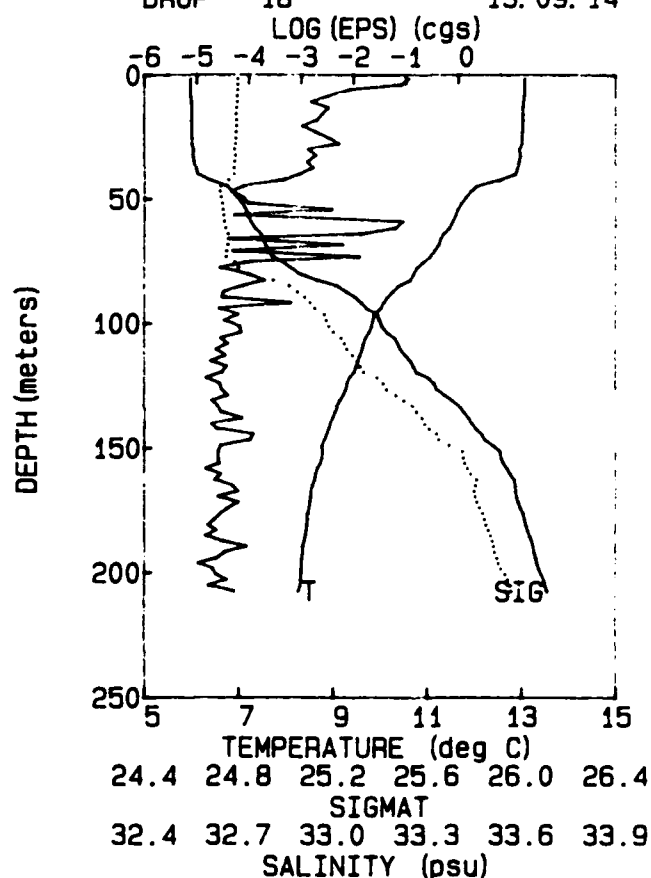
TAPE 147 06-02-87
DROP 16 12: 53: 58



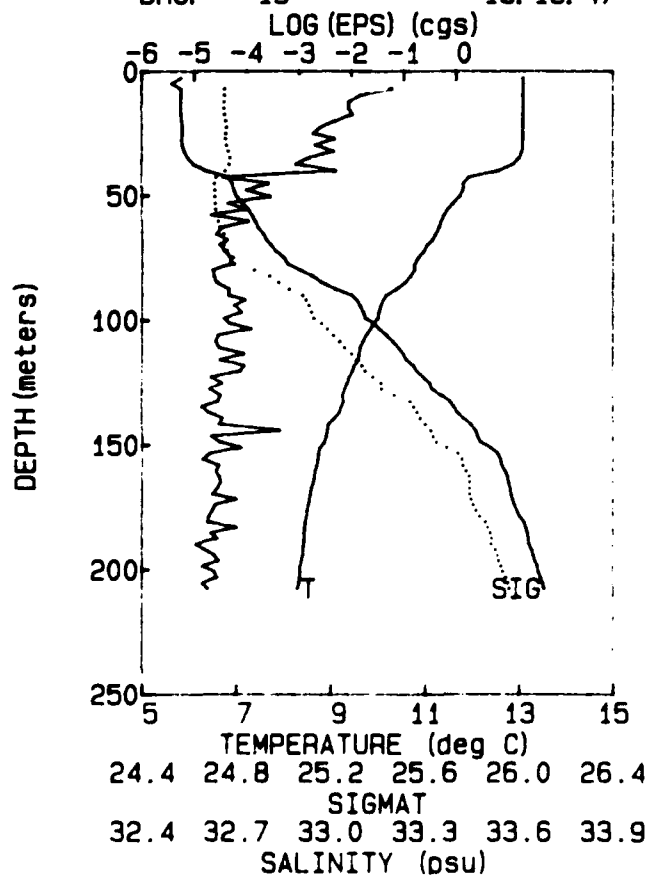
TAPE 147 06-02-87
DROP 17 13:01:40



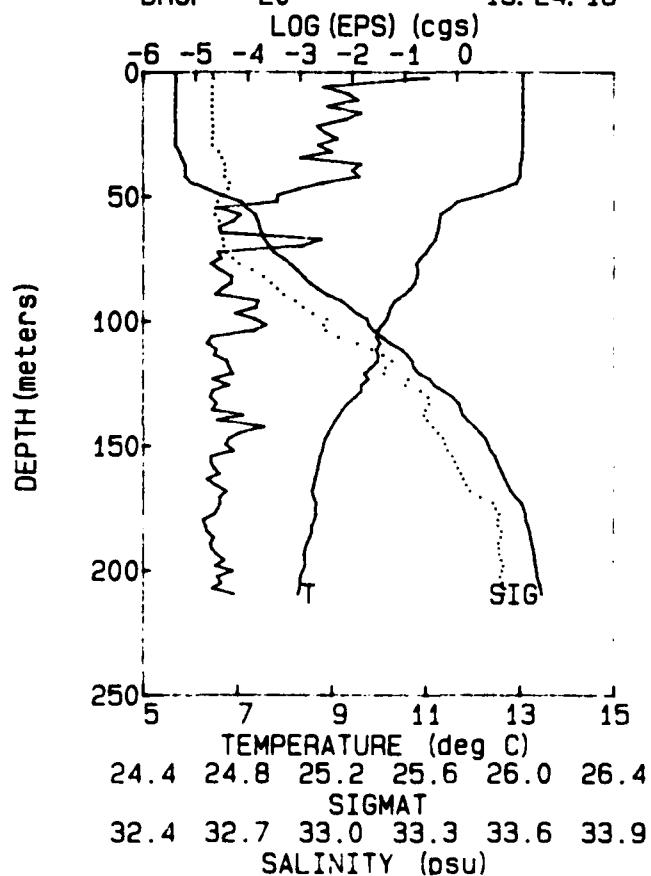
TAPE 147 06-02-87
DROP 18 13:09:14



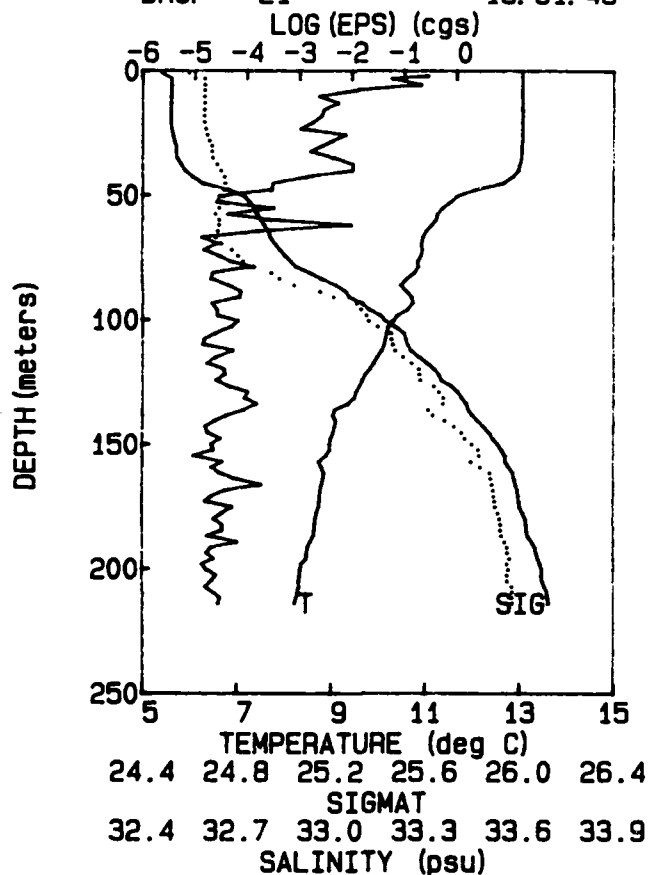
TAPE 147 06-02-87
DROP 19 13:16:47



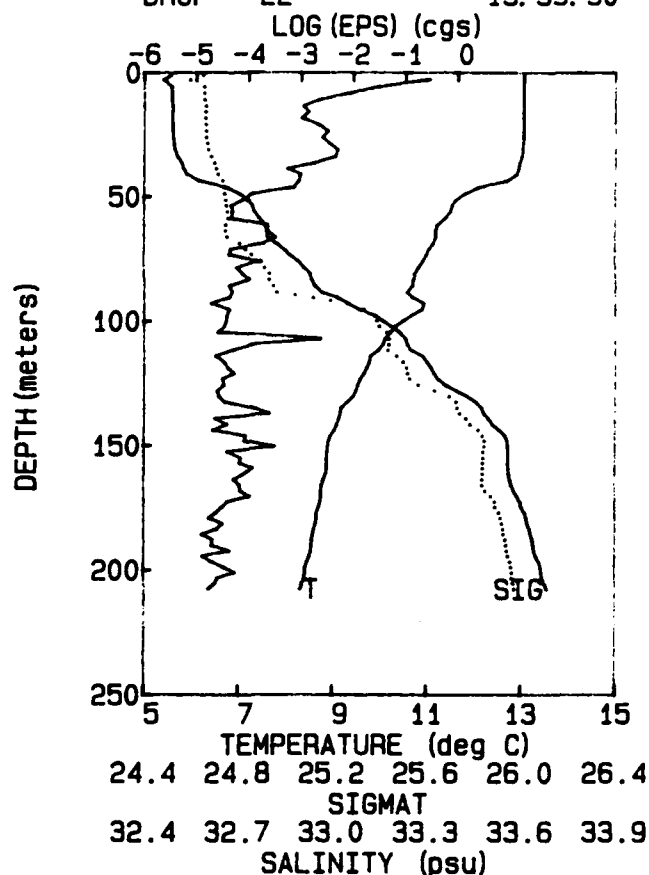
TAPE 147 06-02-87
DROP 20 13:24:18



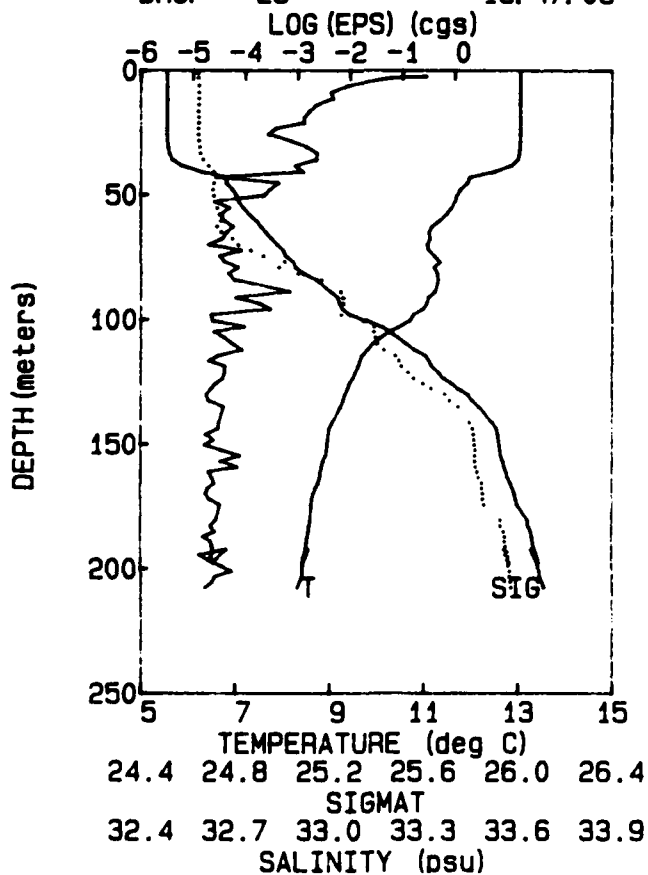
TAPE 147 06-02-87
DROP 21 13:31:45



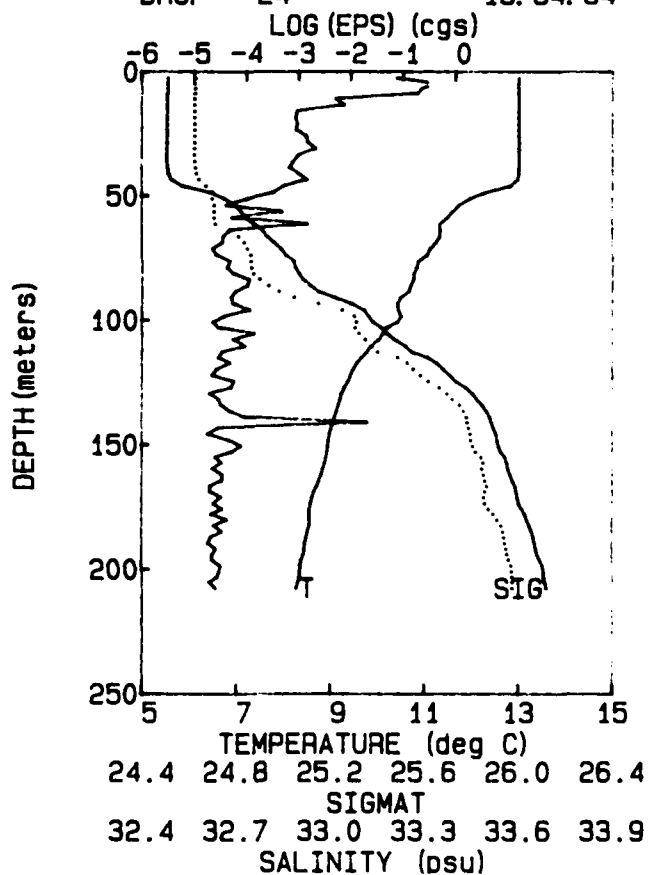
TAPE 147 06-02-87
DROP 22 13:39:30



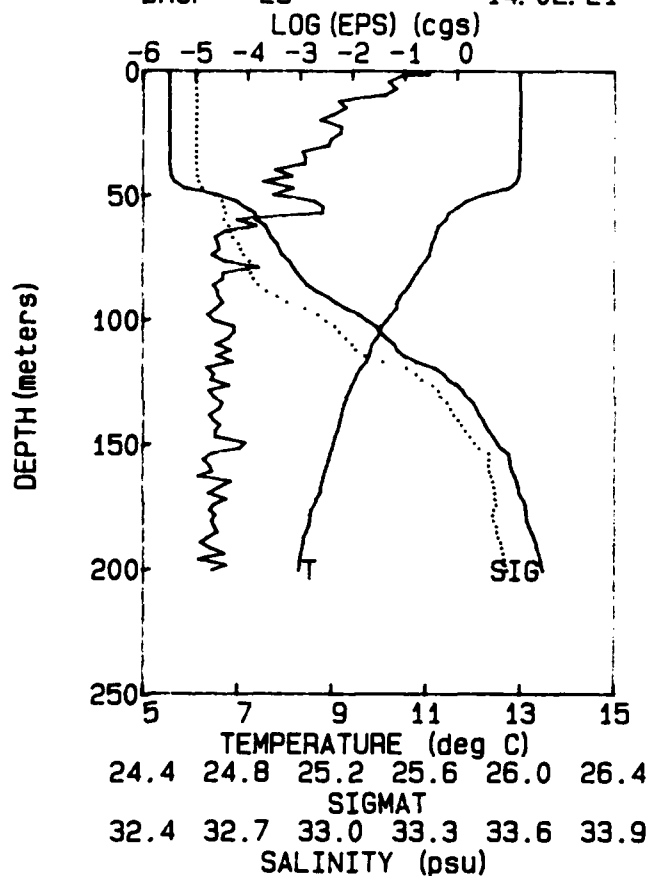
TAPE 147 06-02-87
DROP 23 13:47:05



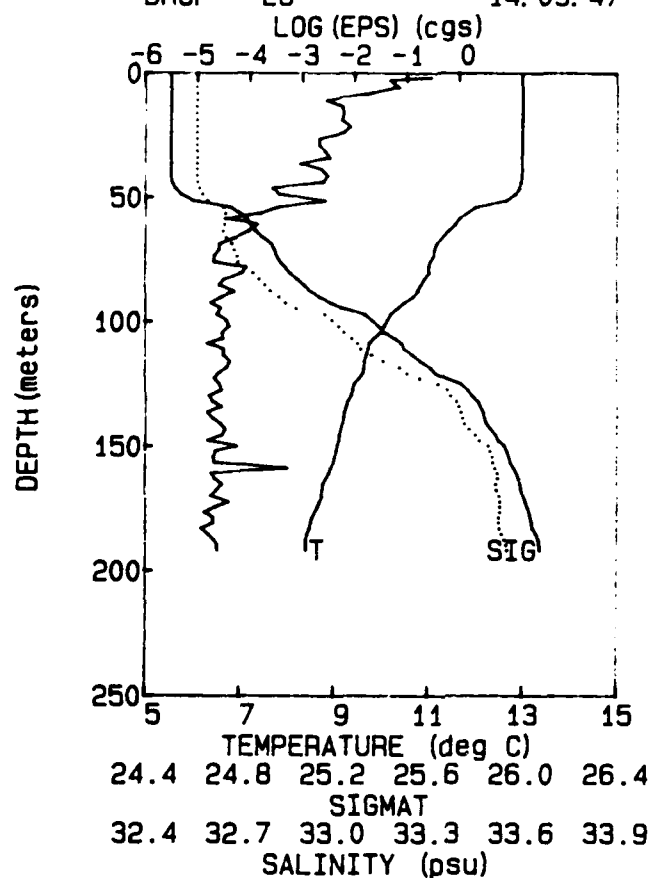
TAPE 147 06-02-87
DROP 24 13:54:34



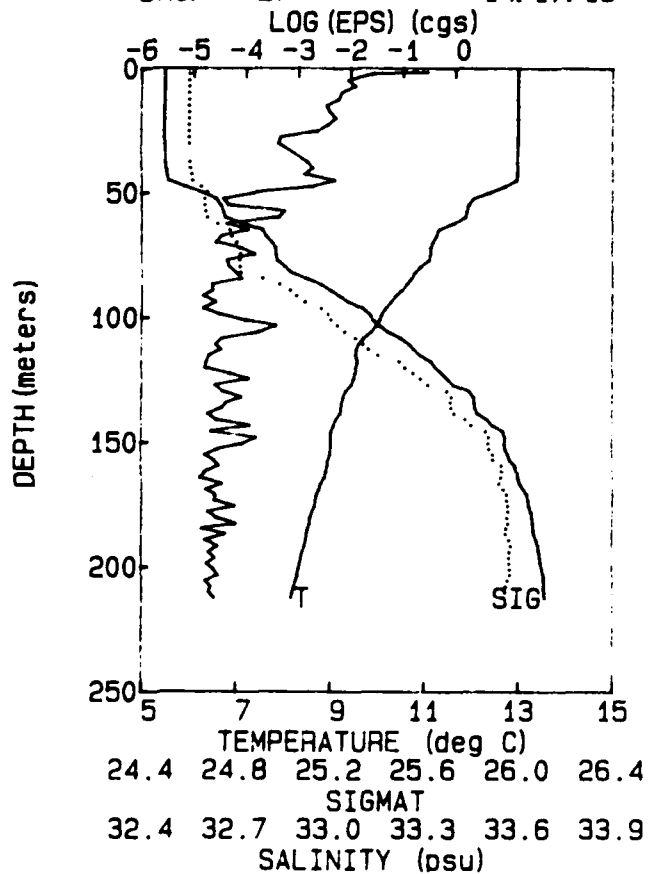
TAPE 147 06-02-87
DROP 25 14:02:21



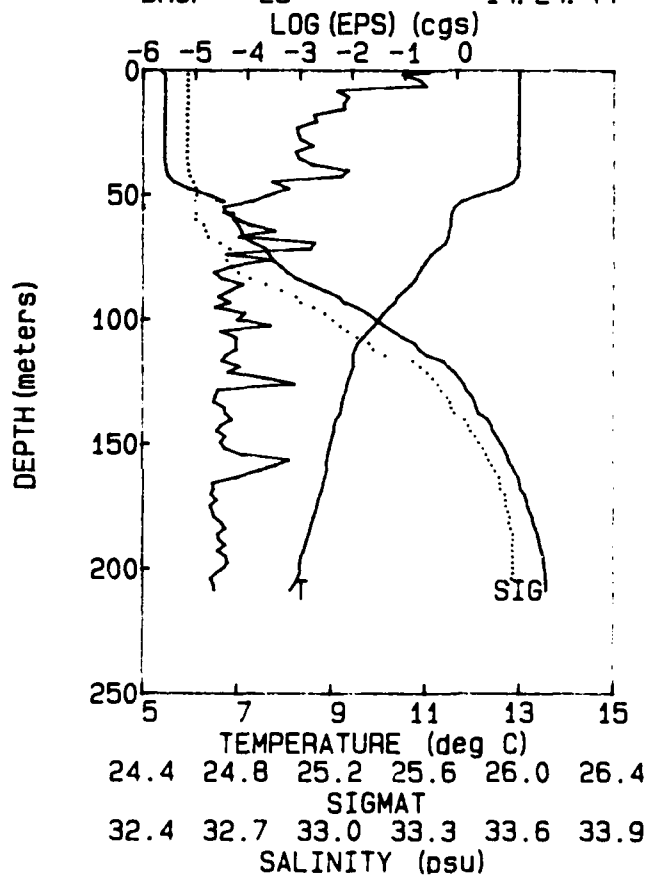
TAPE 147 06-02-87
DROP 26 14:09:47

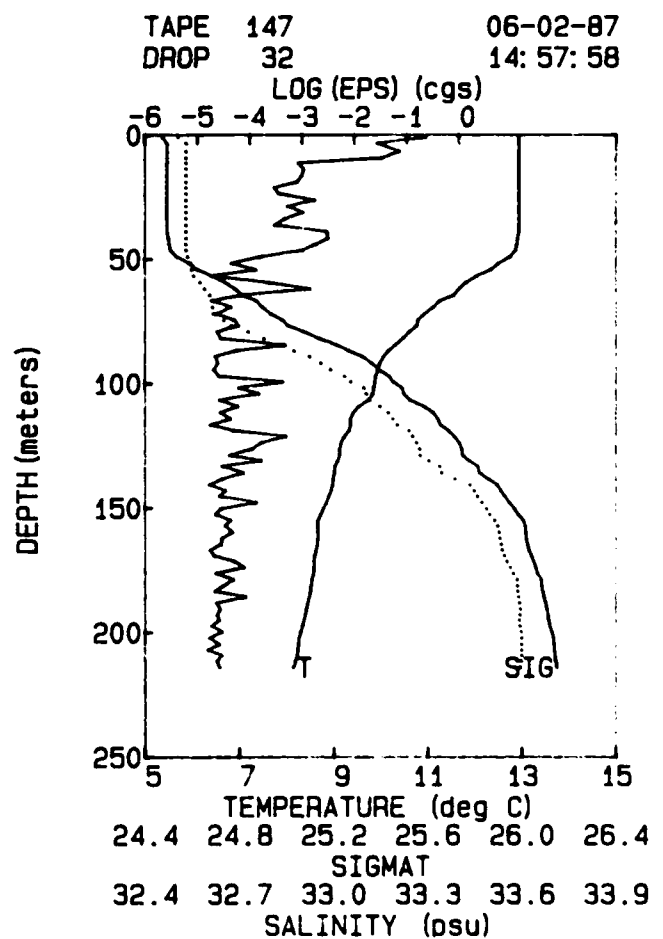
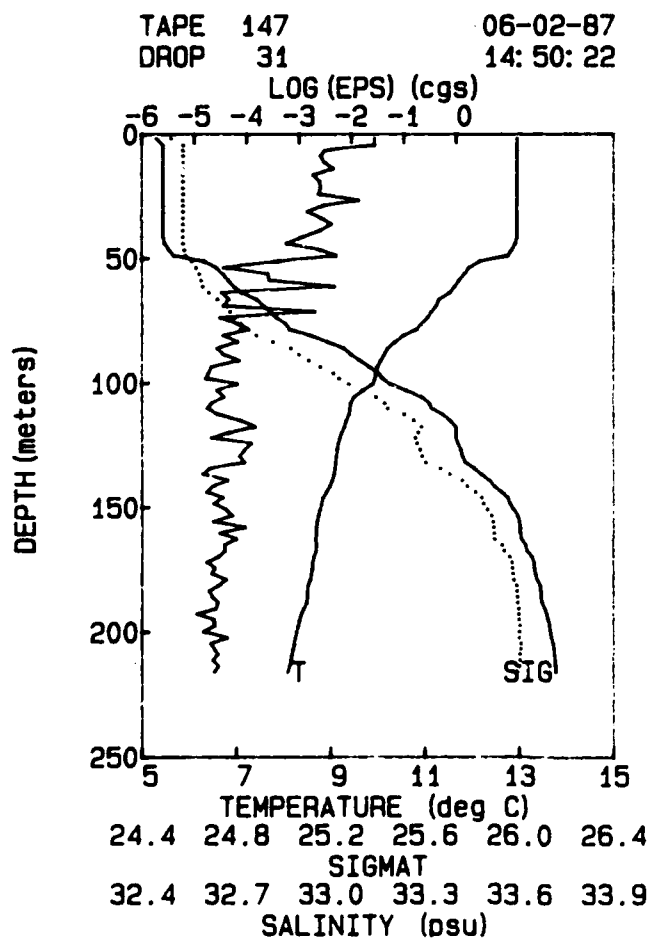
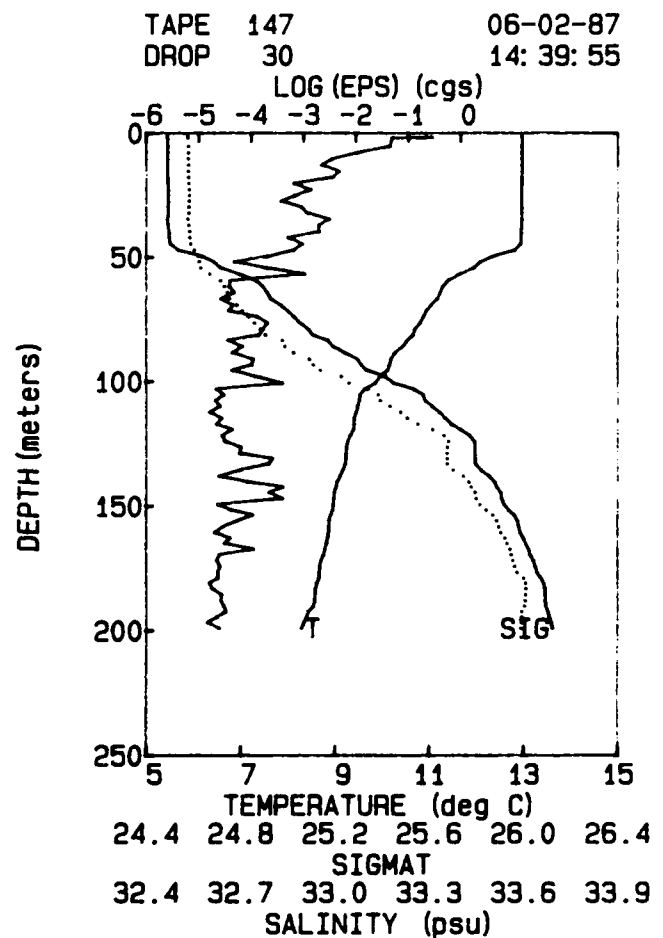
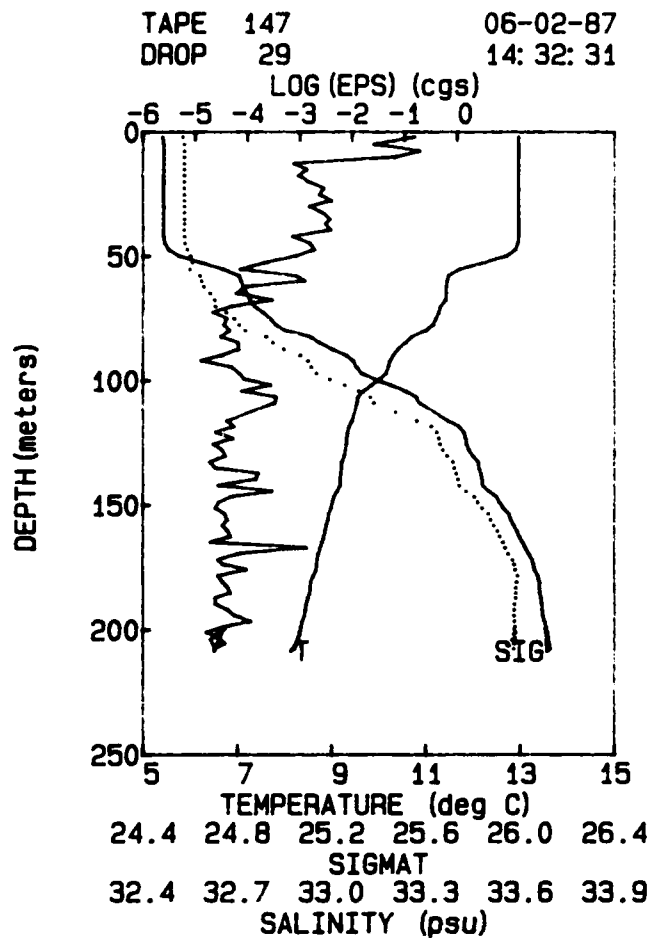


TAPE 147 06-02-87
DROP 27 14:17:16

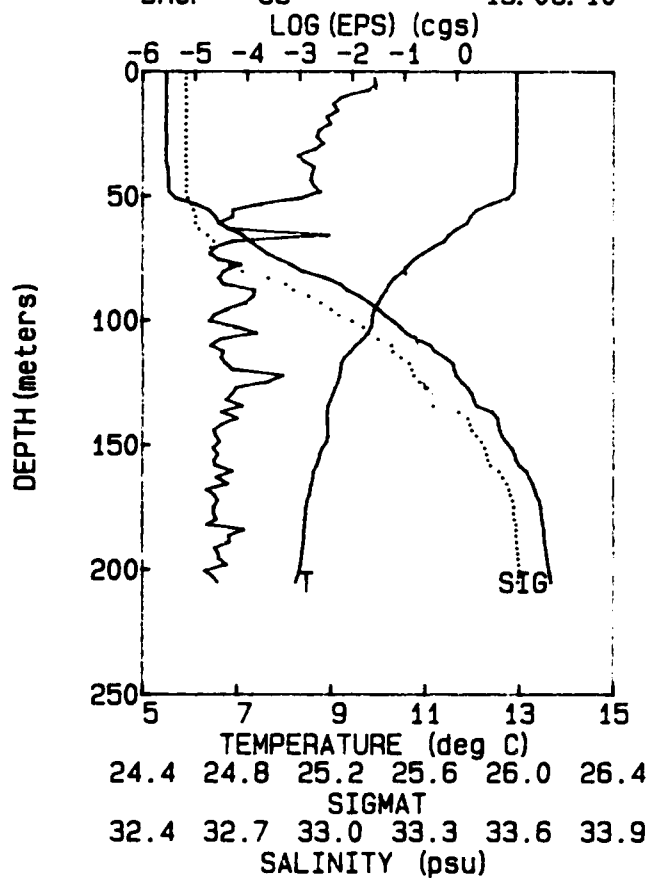


TAPE 147 06-02-87
DROP 28 14:24:44

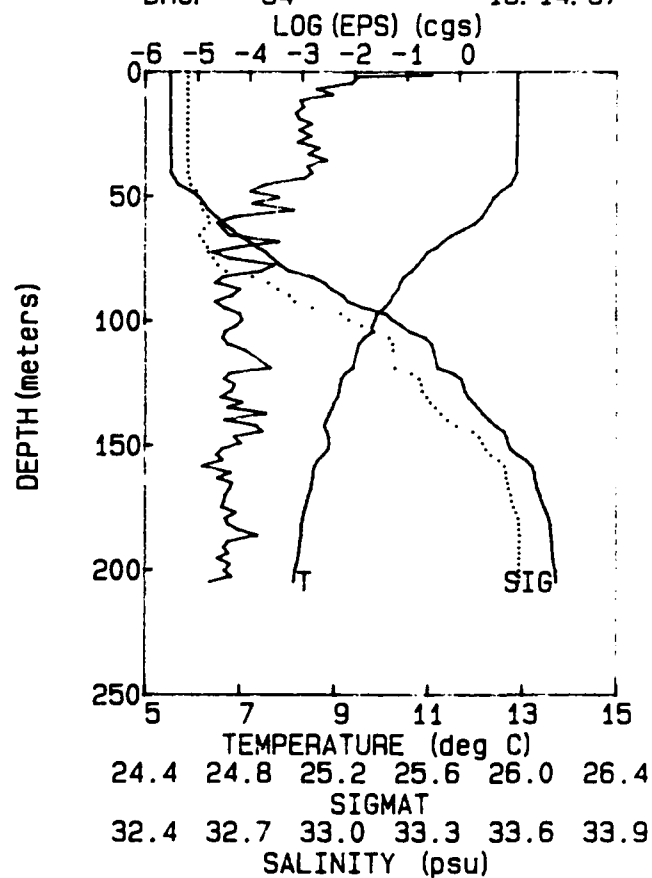




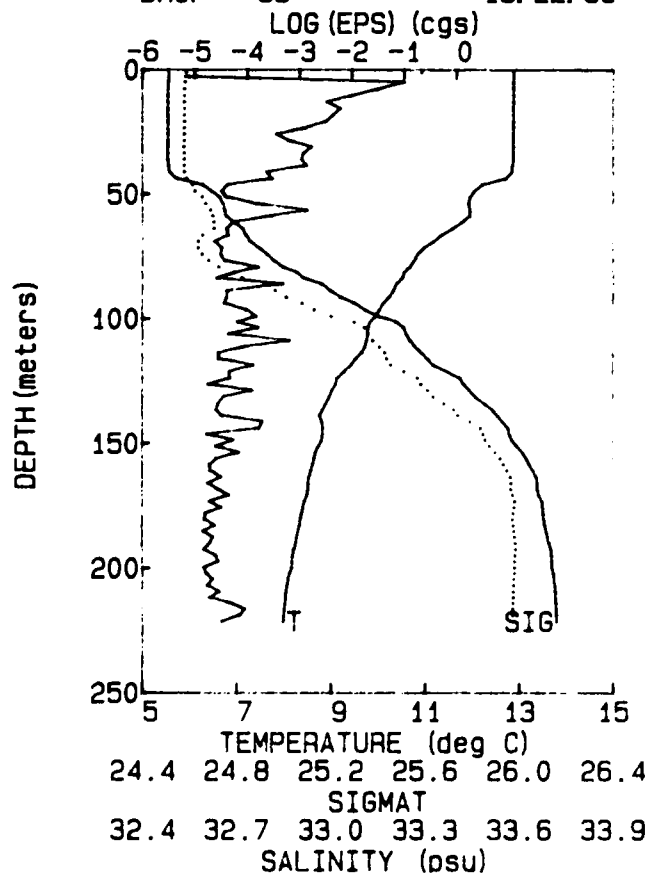
TAPE 147 06-02-87
DROP 33 15: 06: 10



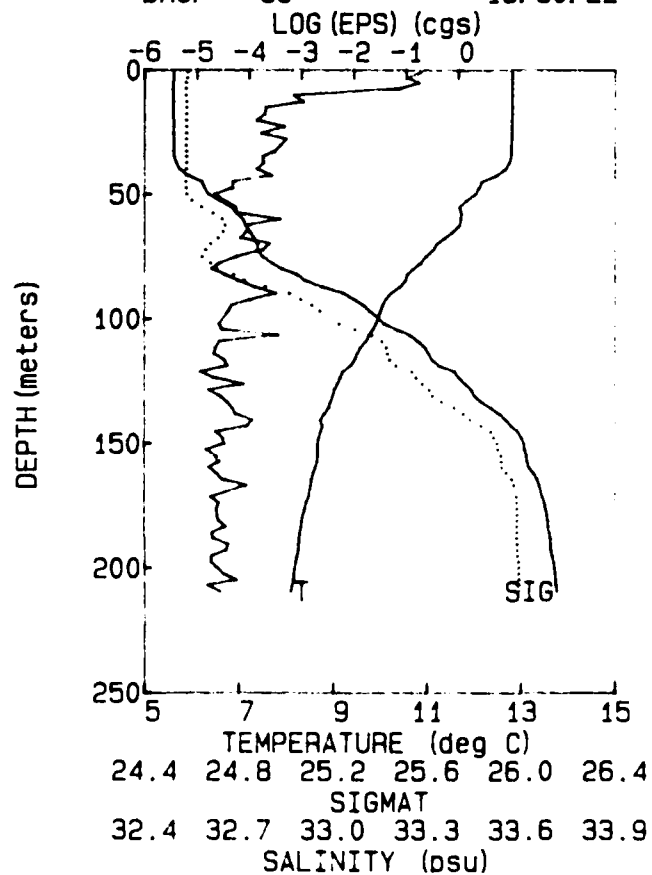
TAPE 147 06-02-87
DROP 34 15: 14: 57



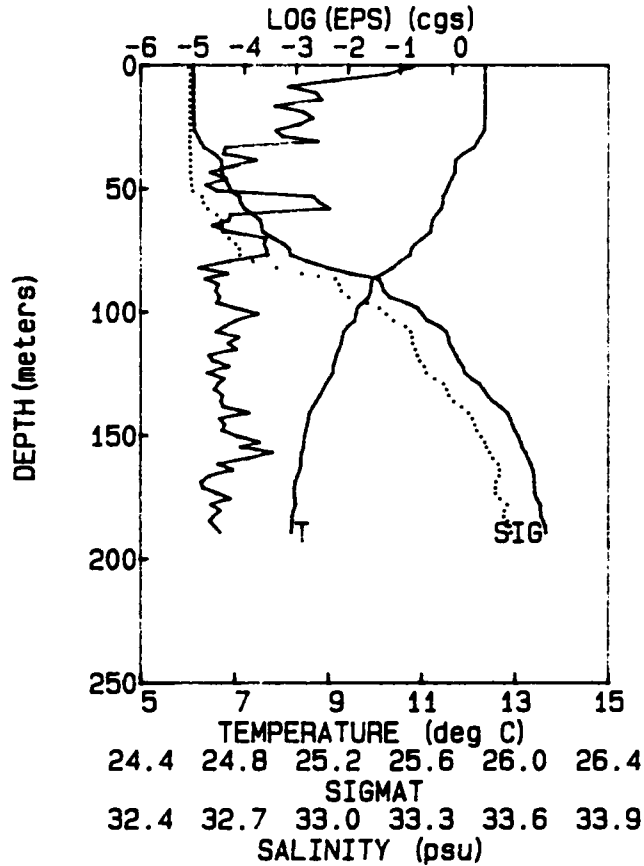
TAPE 147 06-02-87
DROP 35 15: 22: 36



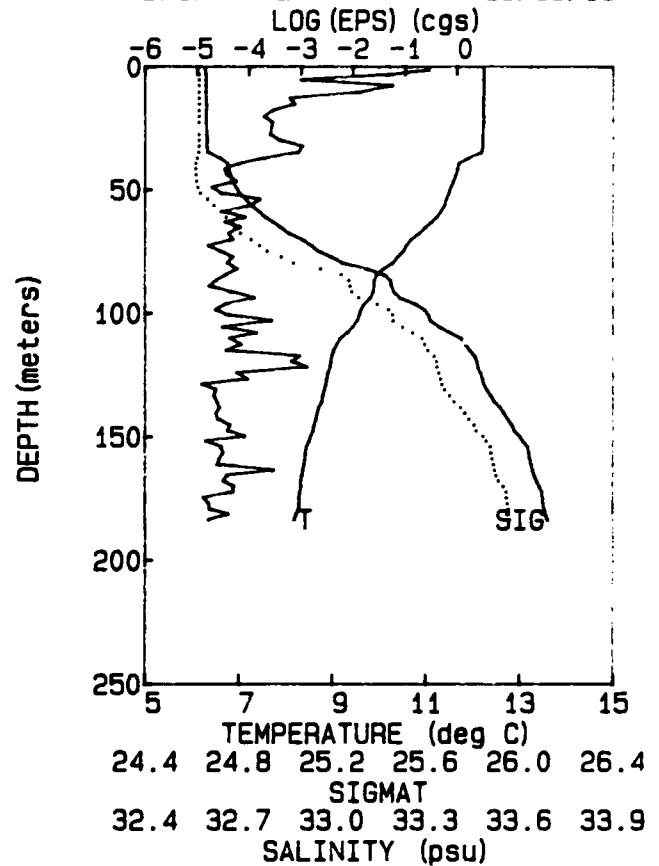
TAPE 147 06-02-87
DROP 36 15: 30: 22



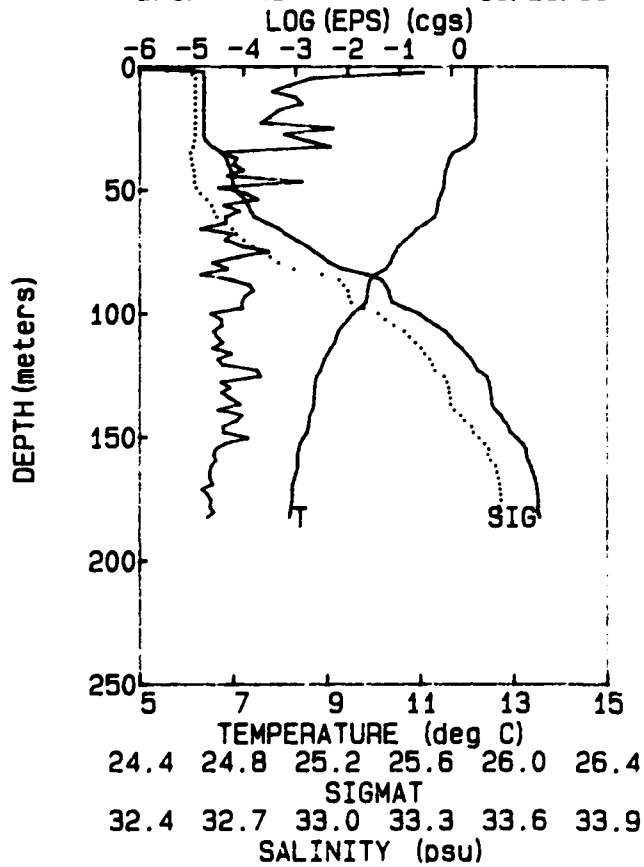
TAPE 147 06-02-87
DROP 41 16:10:51



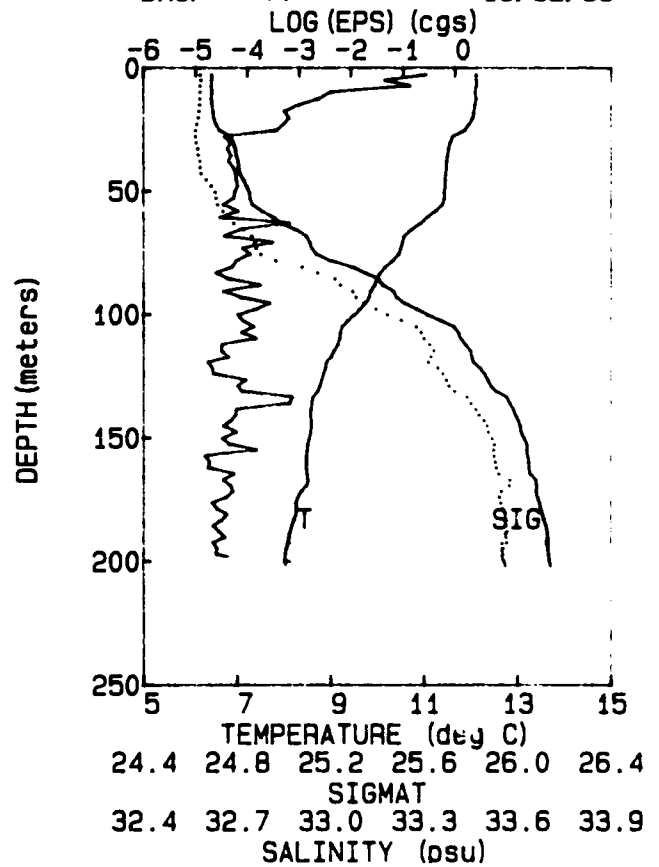
TAPE 147 06-02-87
DROP 42 16:18:15

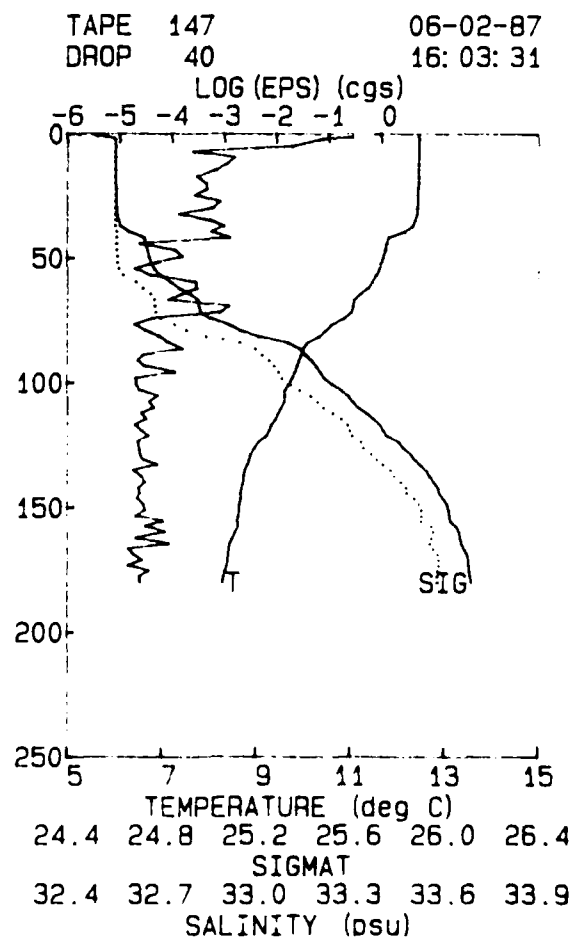
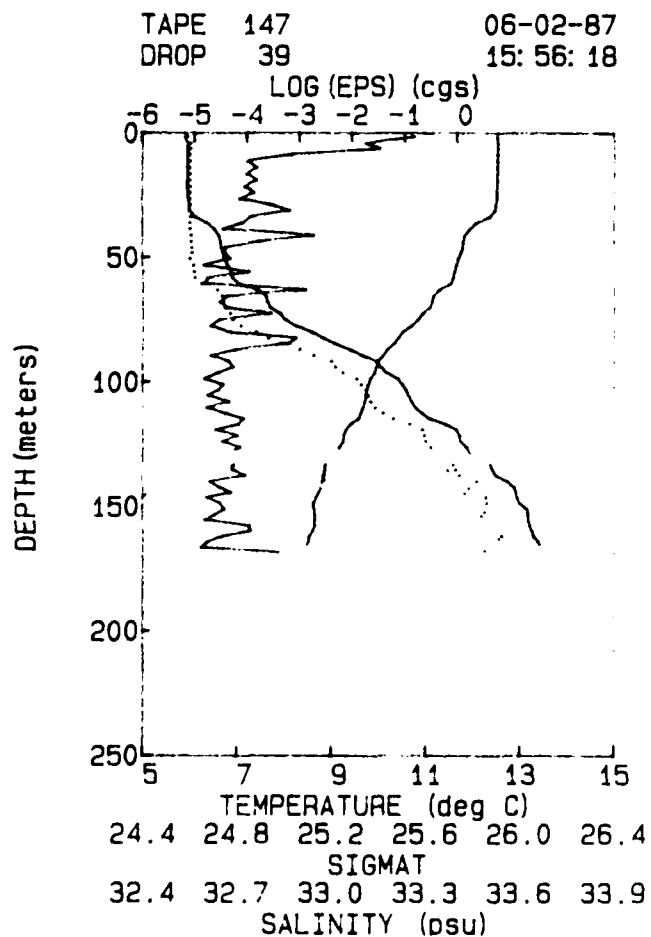
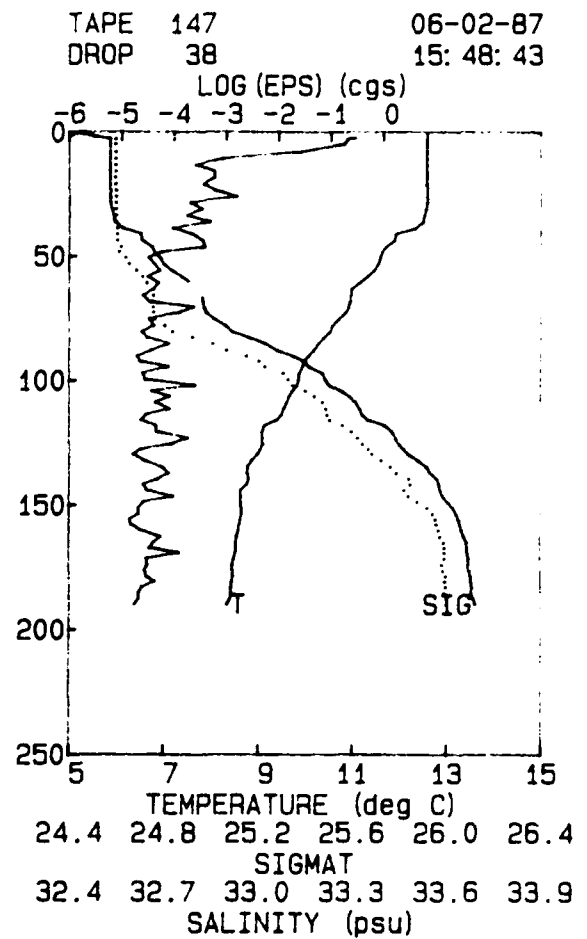
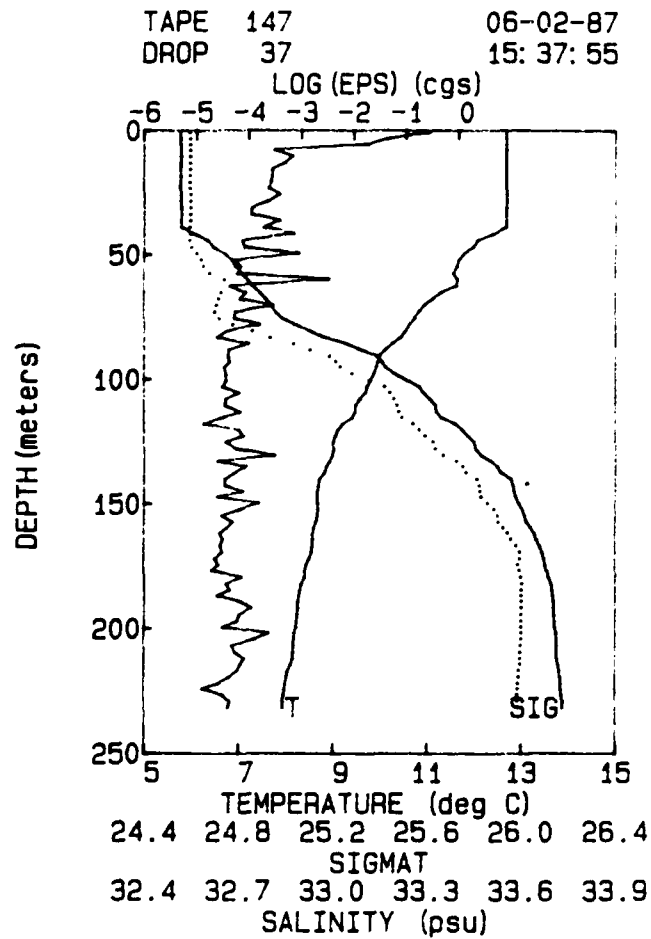


TAPE 147 06-02-87
DROP 43 16:25:36

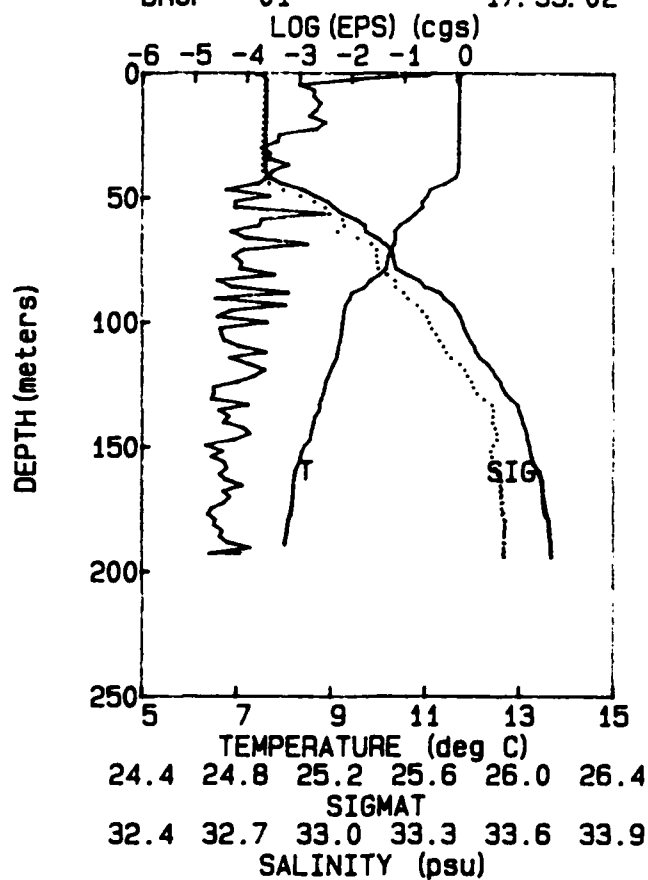


TAPE 147 06-02-87
DROP 44 16:32:58

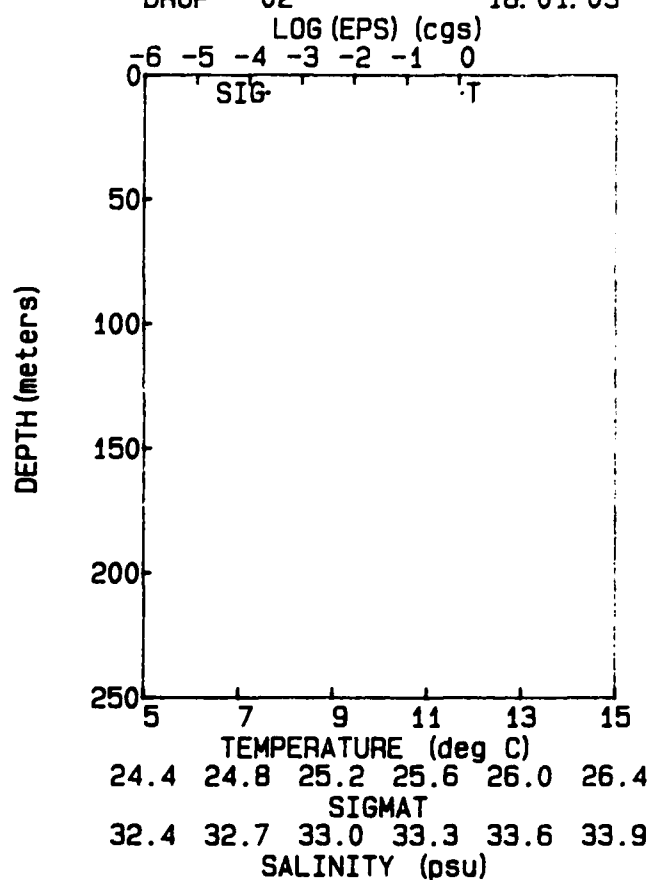




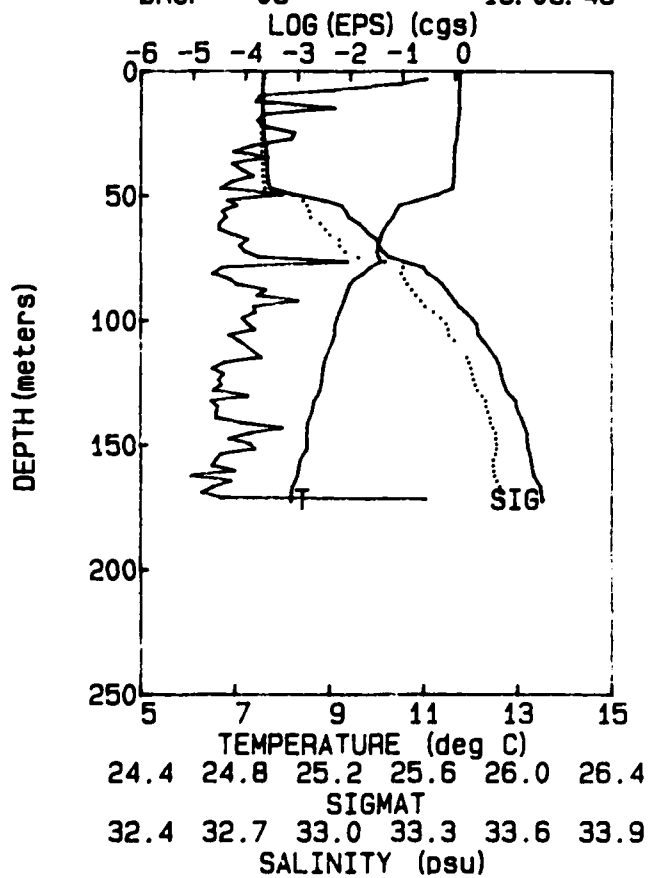
TAPE 148 06-02-87
DROP 01 17:55:02



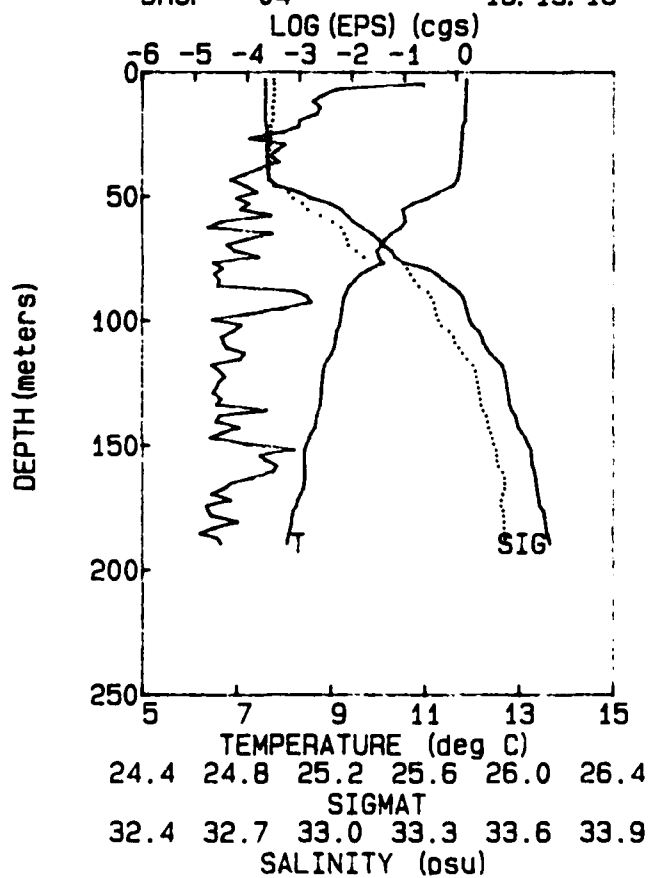
TAPE 148 06-02-87
DROP 02 18:01:03



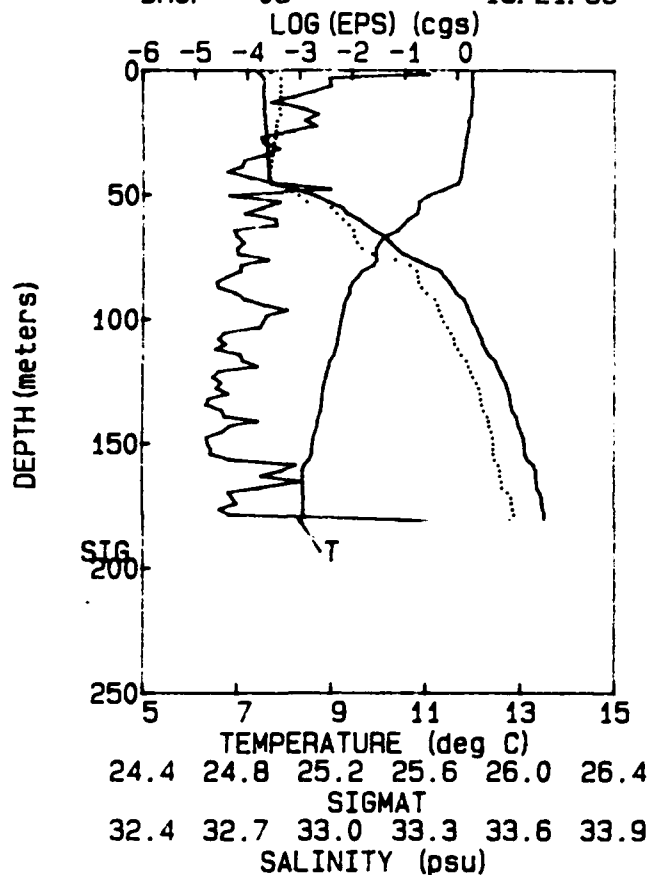
TAPE 148 06-02-87
DROP 03 18:03:46



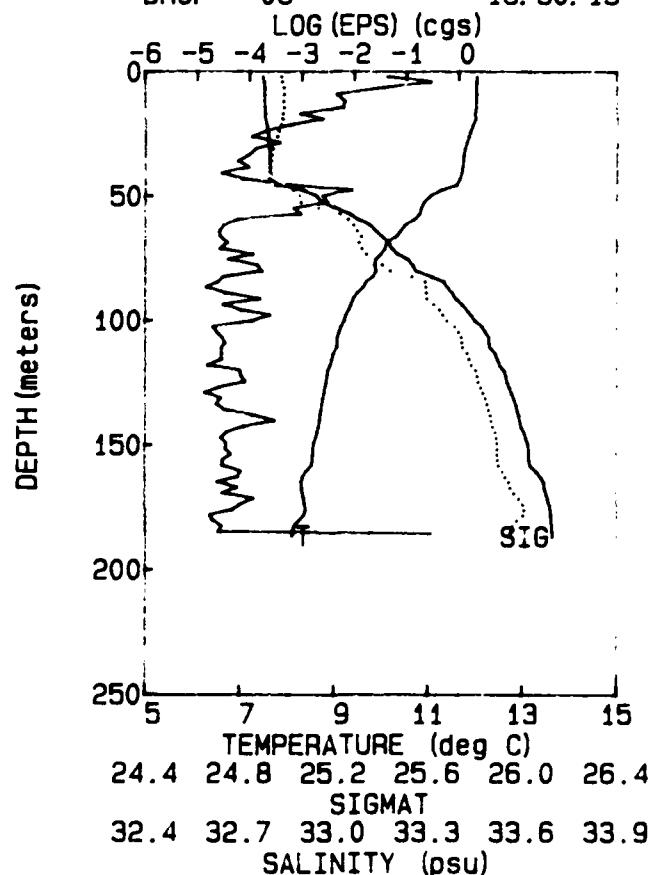
TAPE 148 06-02-87
DROP 04 18:13:16



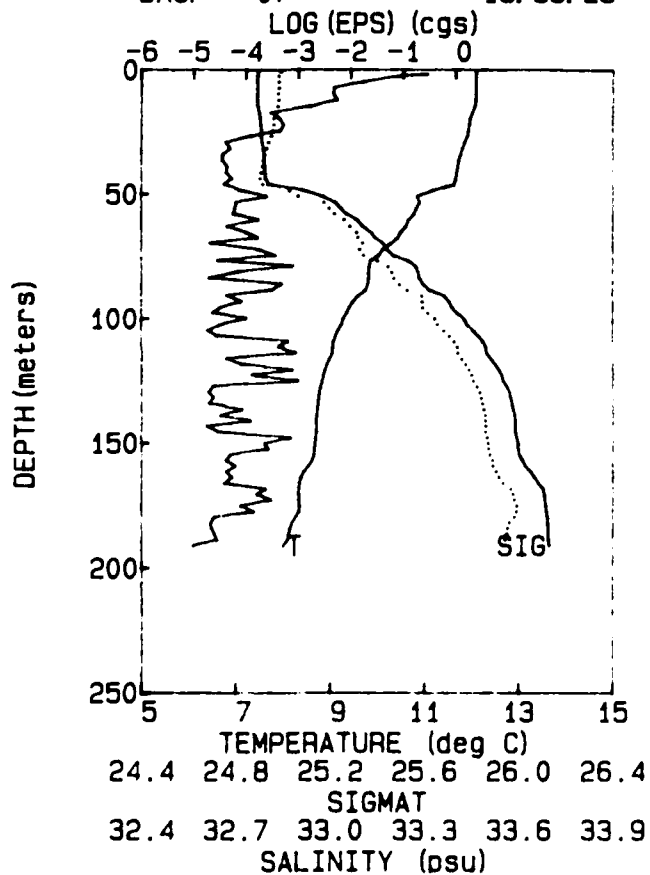
TAPE 148 06-02-87
DROP 05 18:21:56



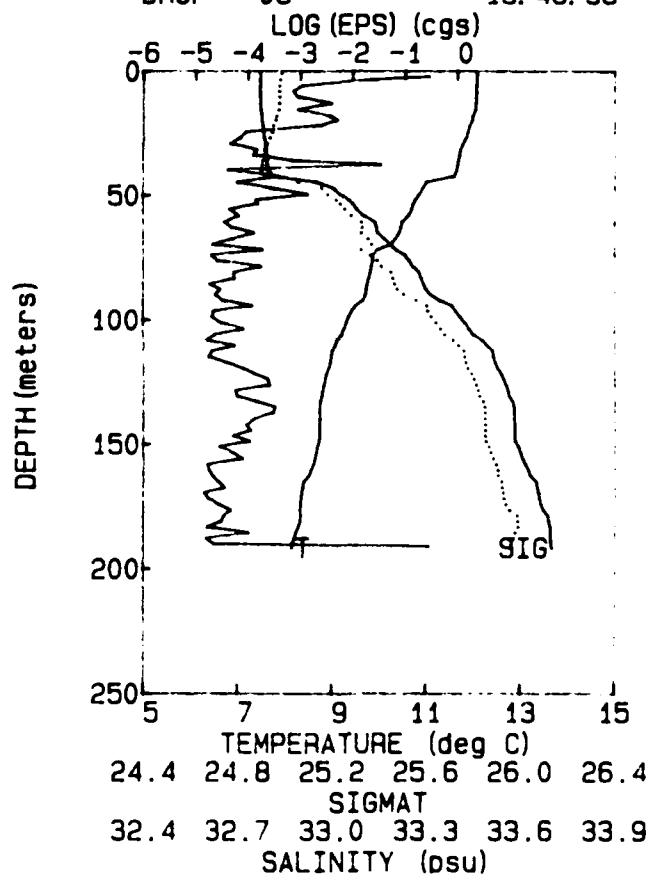
TAPE 148 06-02-87
DROP 06 18:30:15



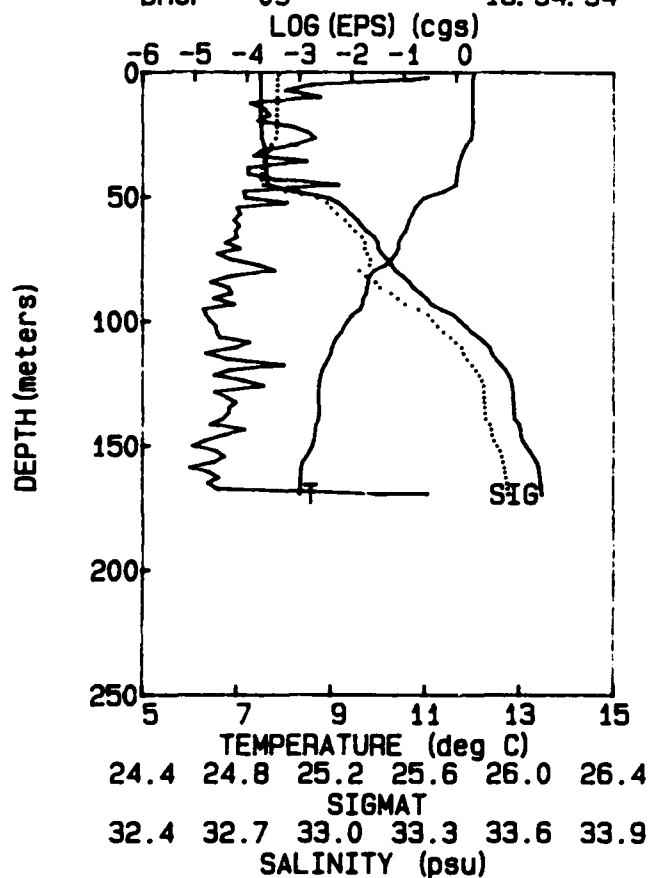
TAPE 148 06-02-87
DROP 07 18:38:25



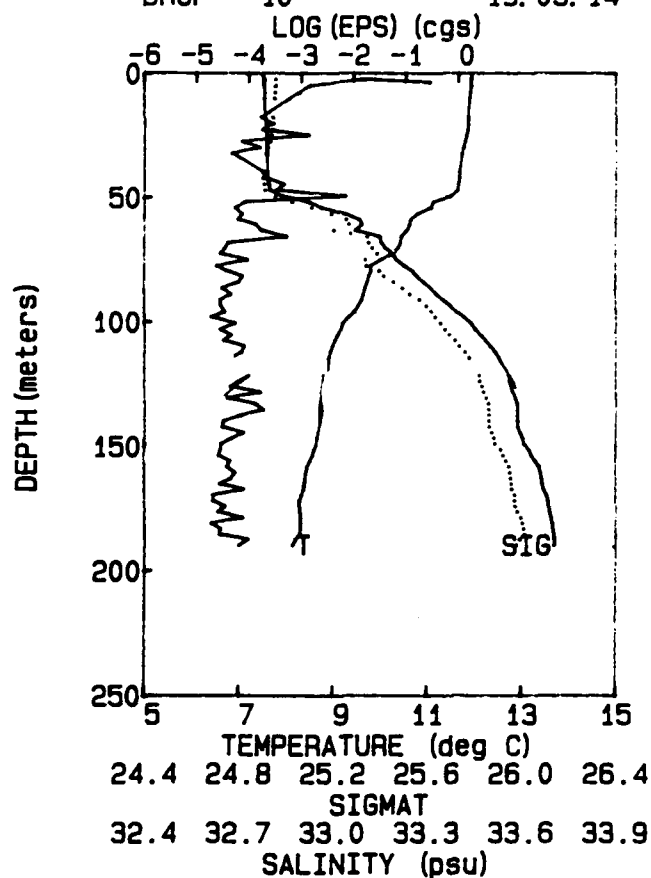
TAPE 148 06-02-87
DROP 08 18:46:38



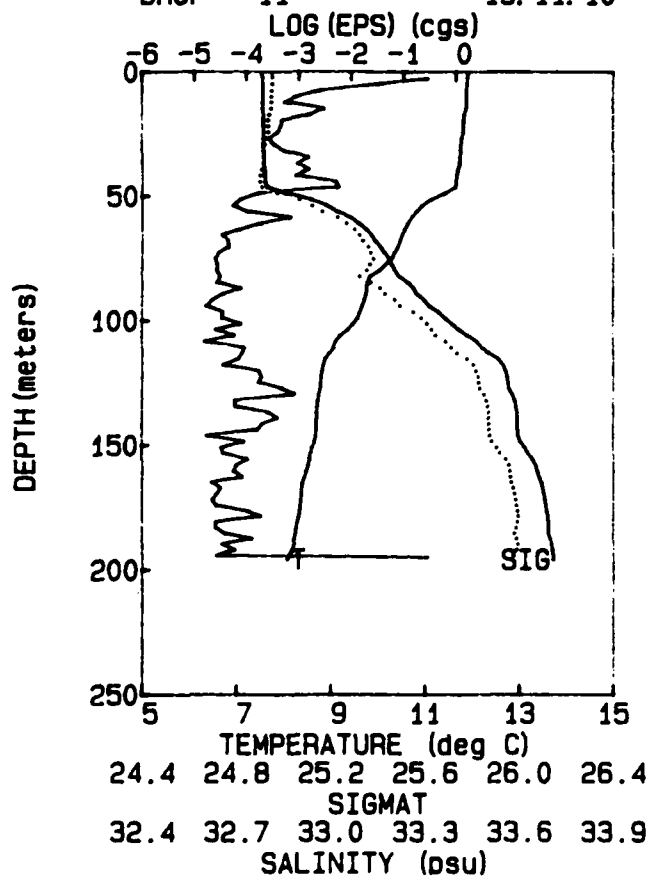
TAPE 148 06-02-87
DROP 09 18: 54: 54



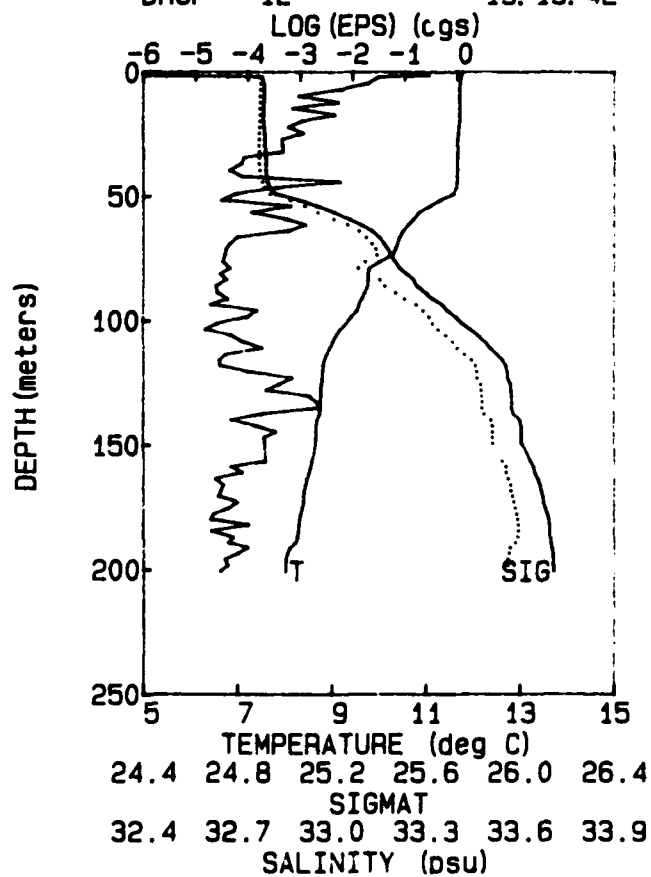
TAPE 148 06-02-87
DROP 10 19: 03: 14

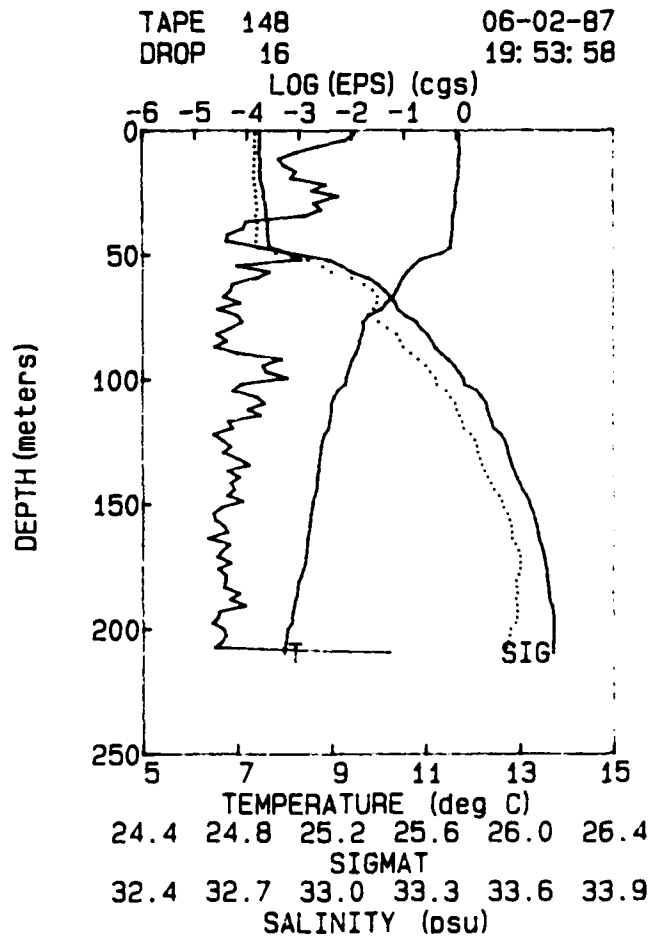
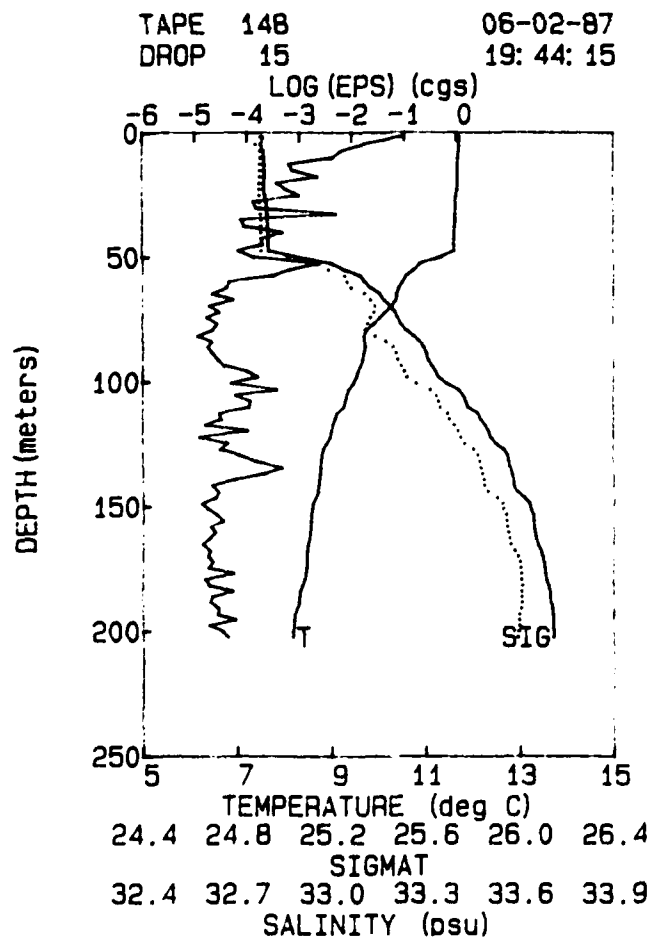
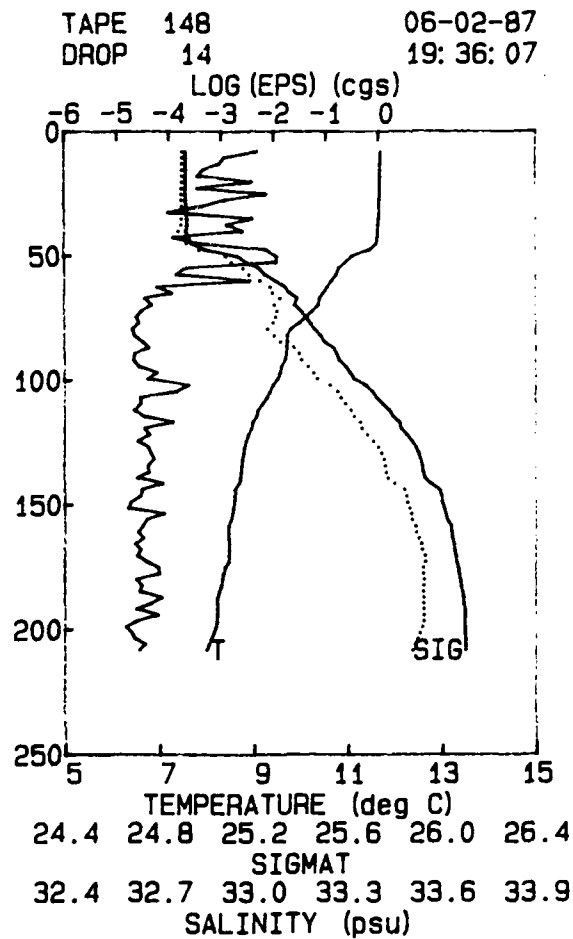
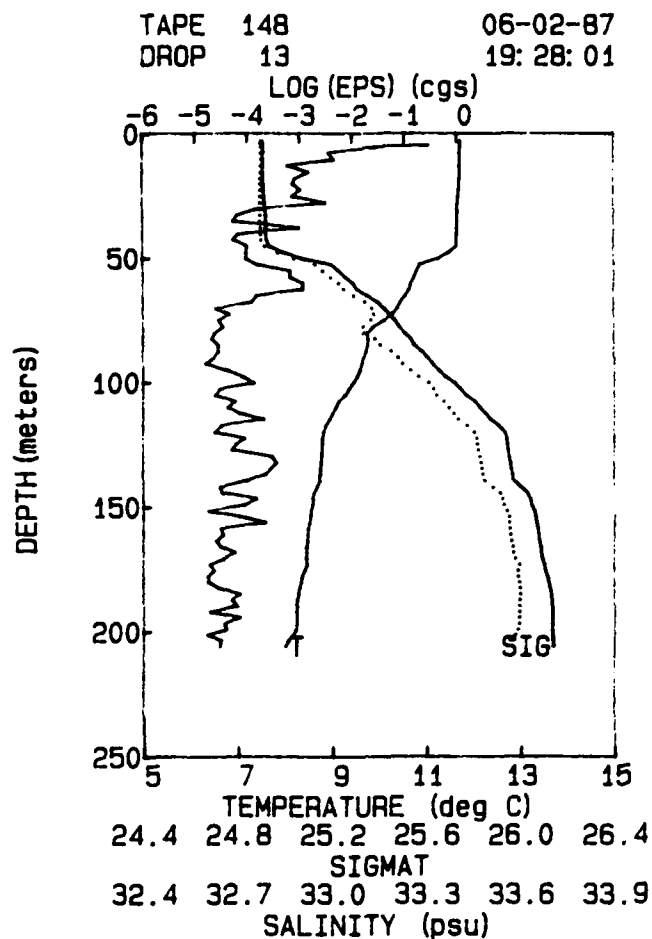


TAPE 148 06-02-87
DROP 11 19: 11: 10

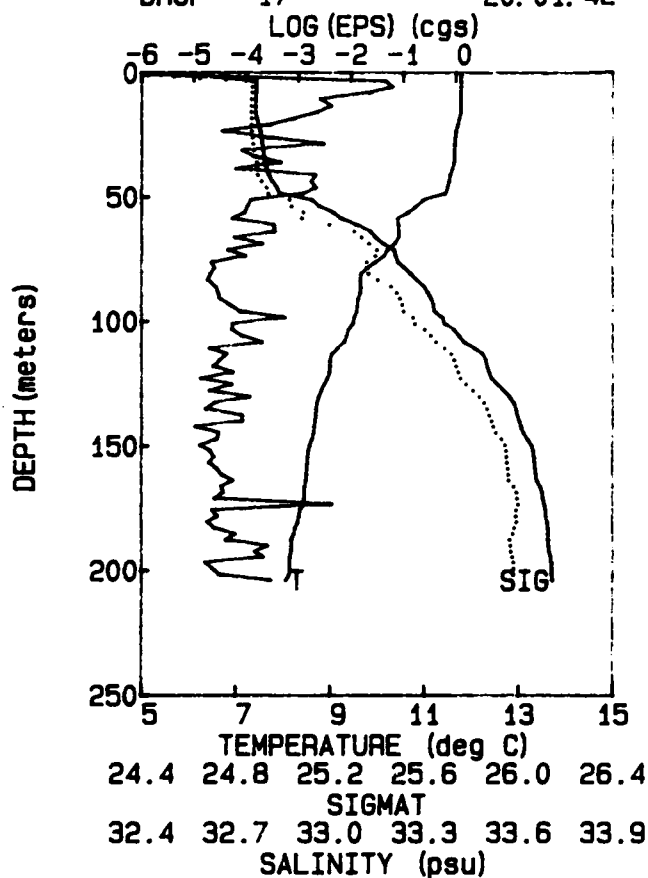


TAPE 148 06-02-87
DROP 12 19: 19: 42

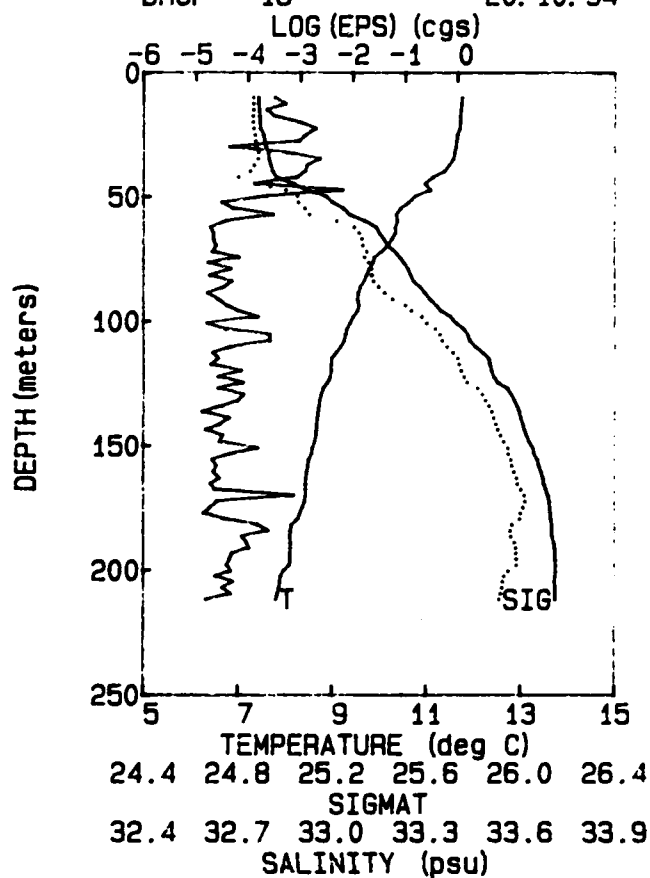




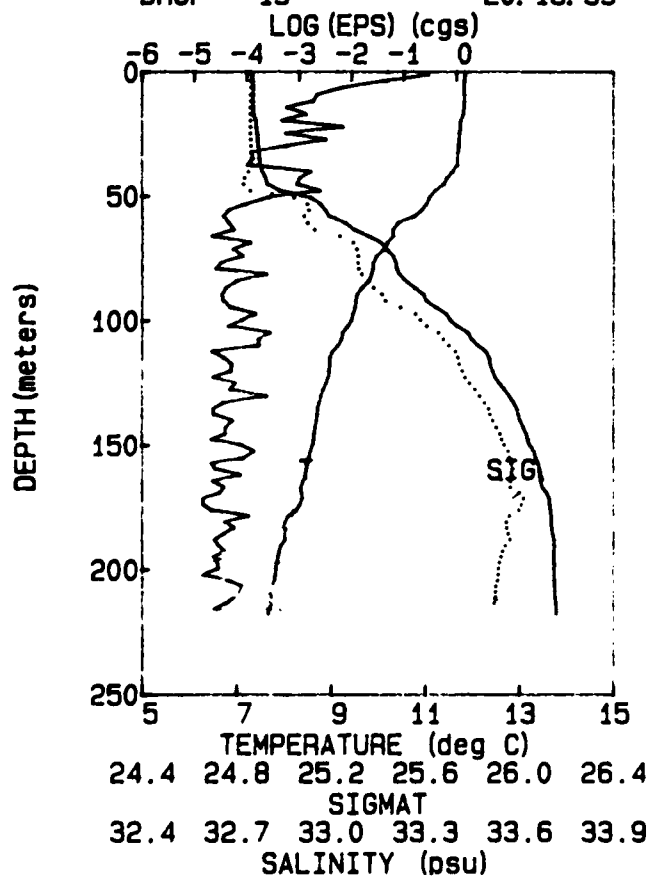
TAPE 148 06-02-87
DROP 17 20:01:42



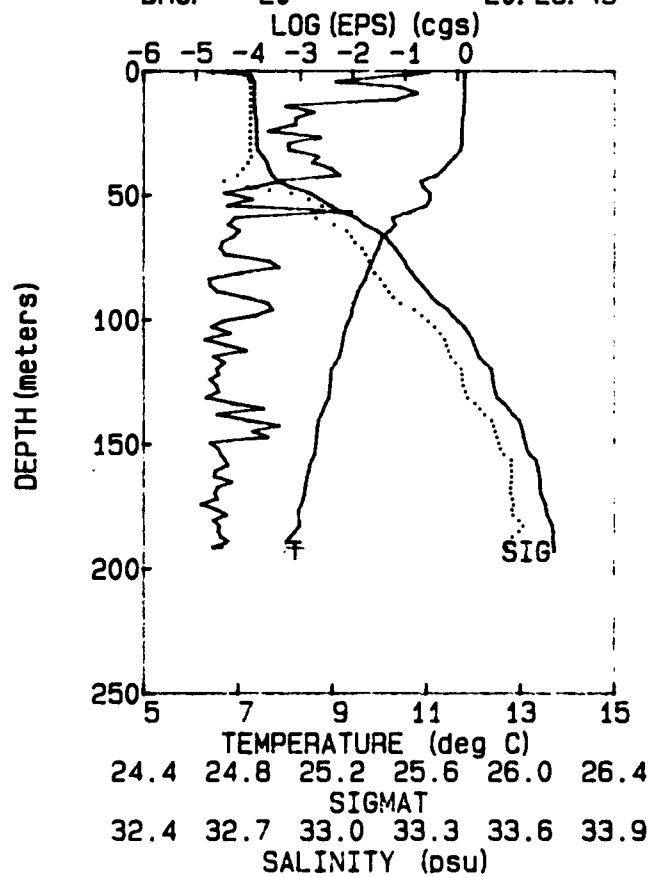
TAPE 148 06-02-87
DROP 18 20:10:34



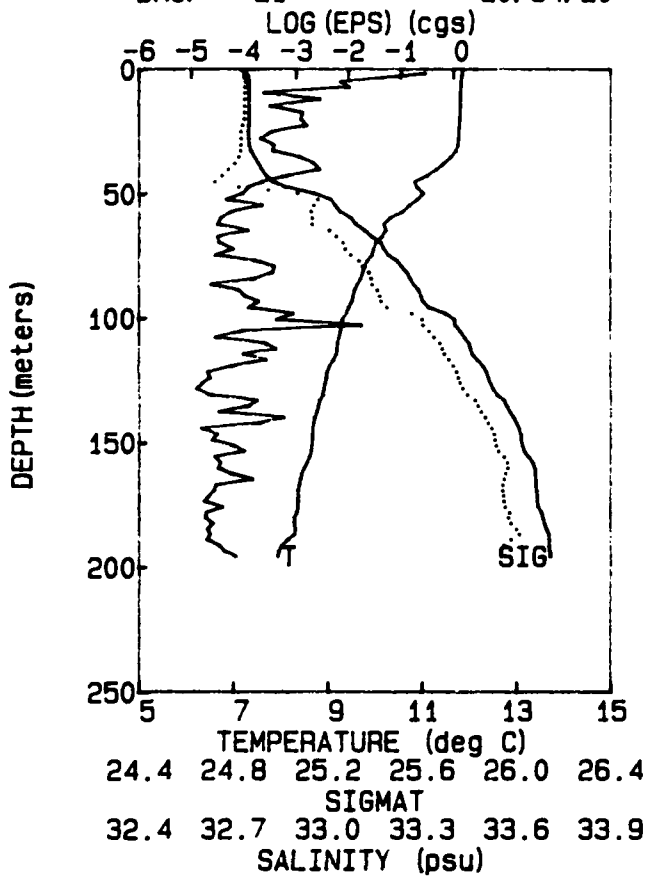
TAPE 148 06-02-87
DROP 19 20:18:39



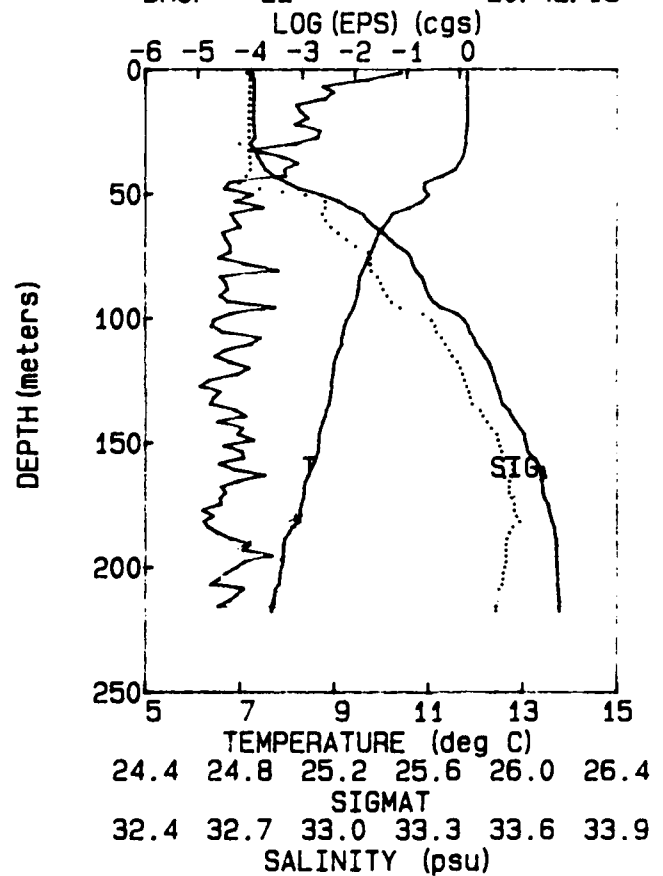
TAPE 148 06-02-87
DROP 20 20:26:49



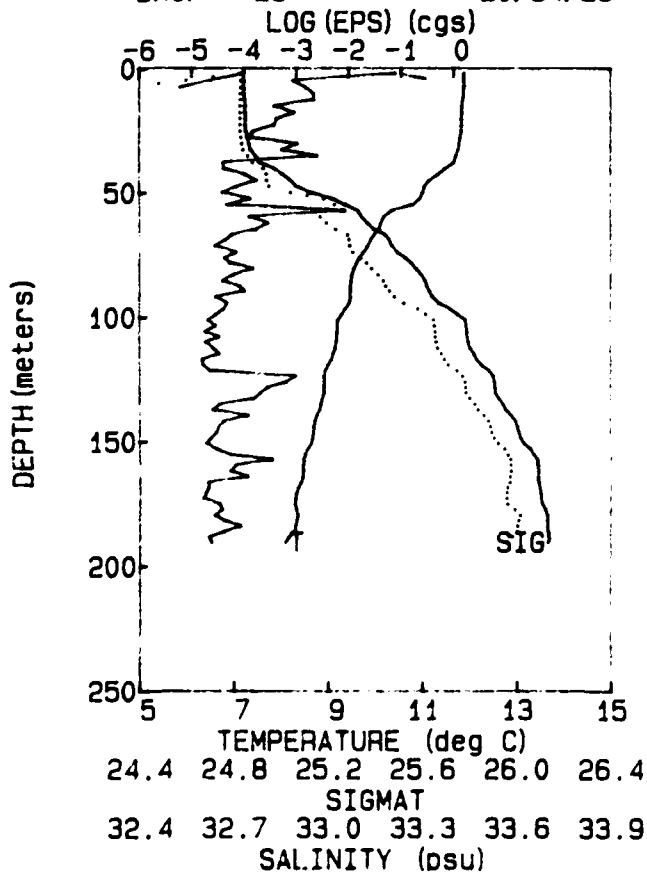
TAPE 148 06-02-87
DROP 21 20:34:20



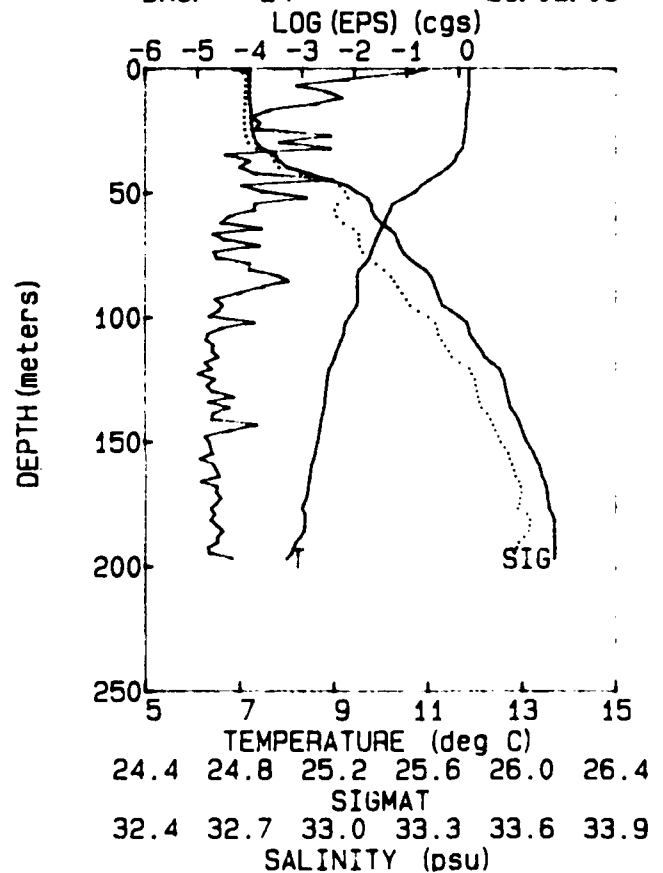
TAPE 148 06-02-87
DROP 22 20:42:18



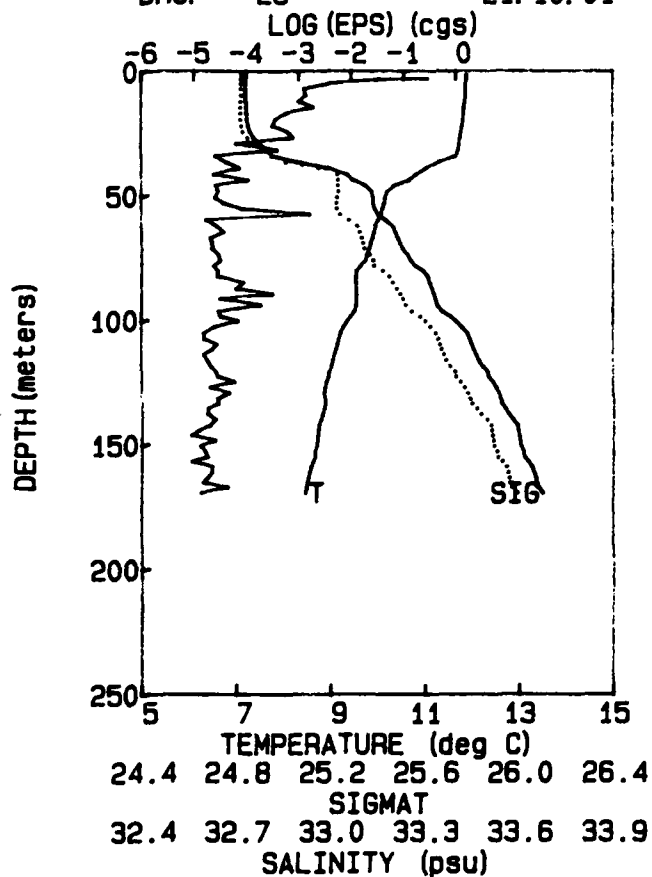
TAPE 148 06-02-87
DROP 23 20:54:26



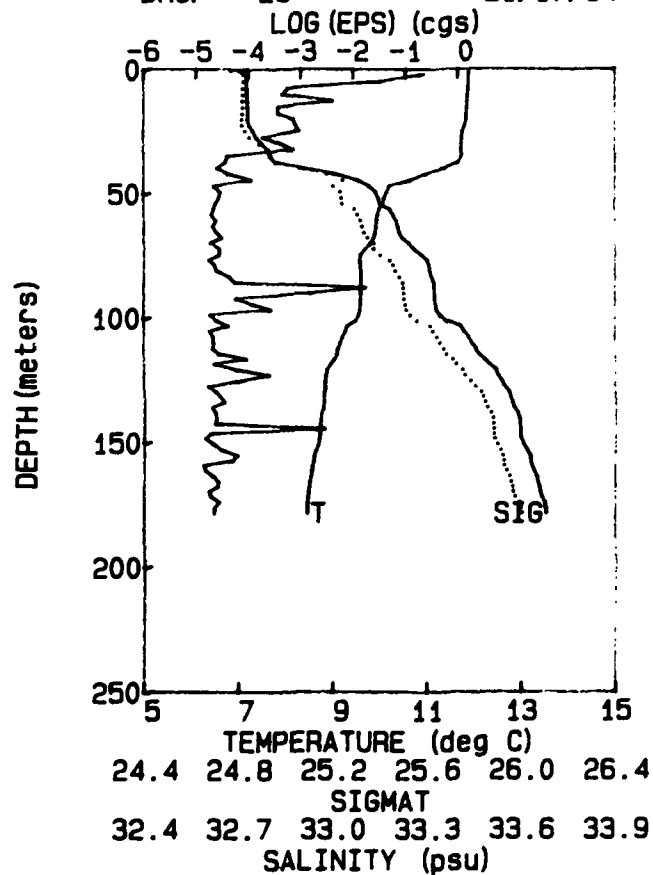
TAPE 148 06-02-87
DROP 24 21:02:06



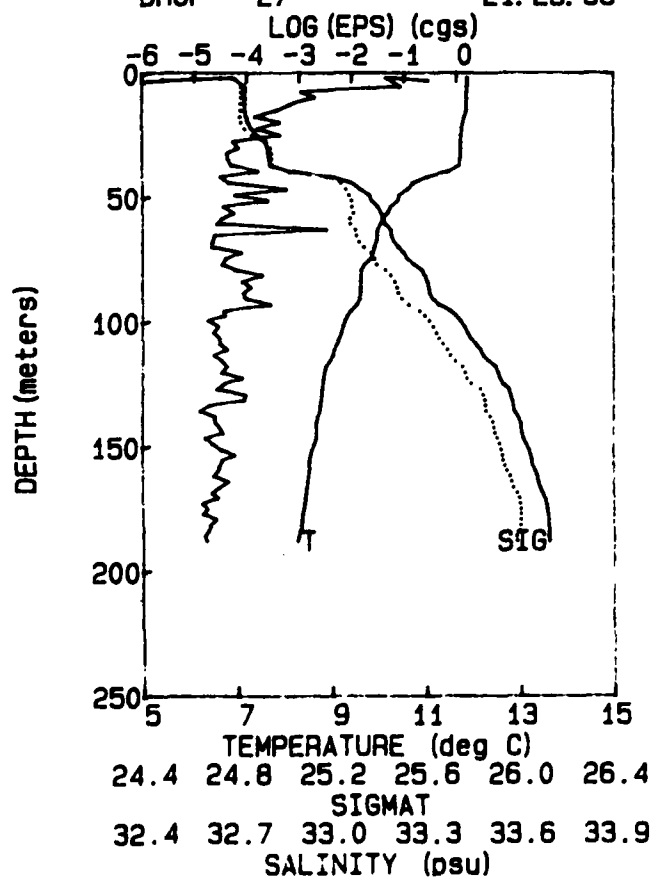
TAPE 148 06-02-87
DROP 25 21:10:01



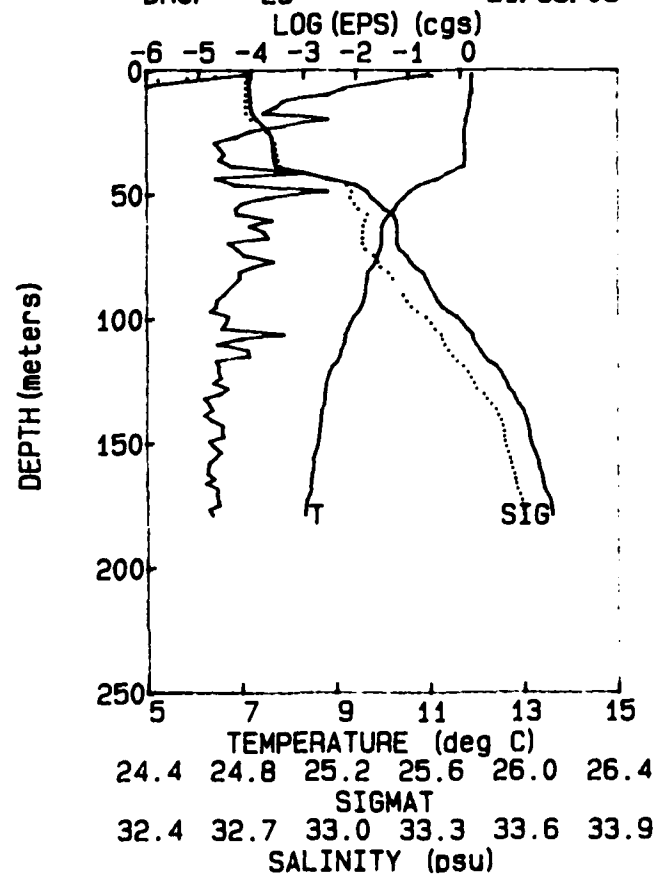
TAPE 148 06-02-87
DROP 26 21:17:54



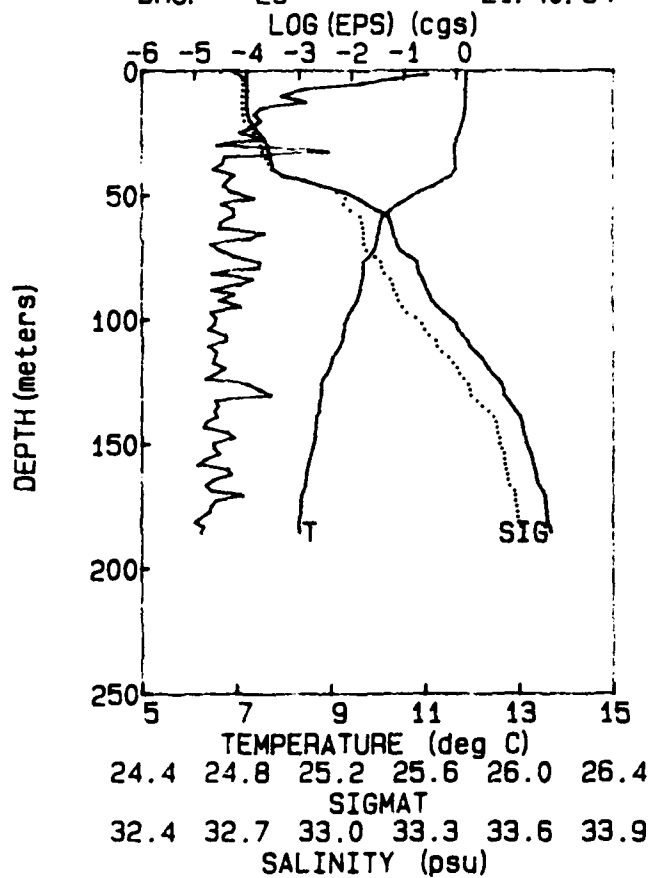
TAPE 148 06-02-87
DROP 27 21:25:38



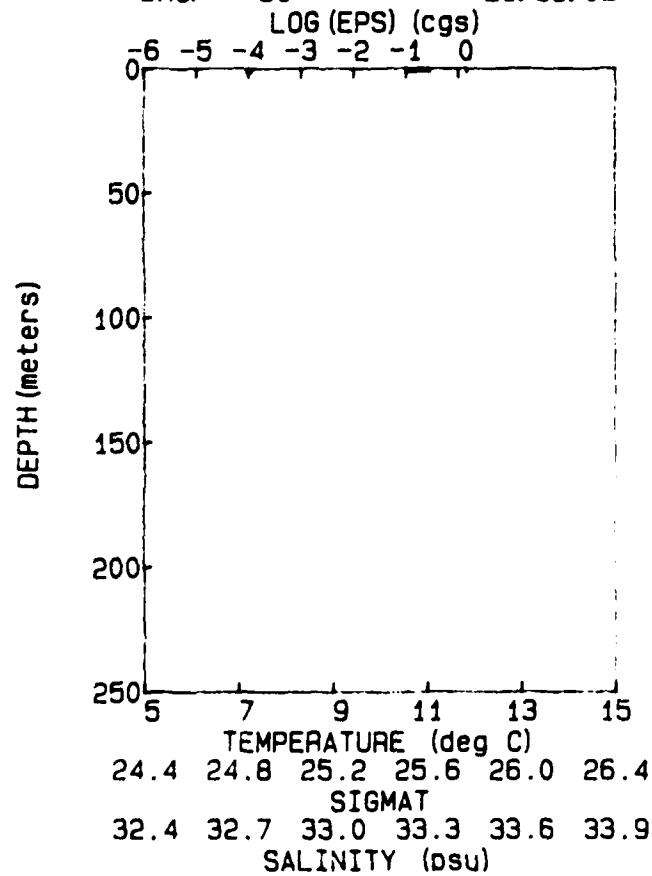
TAPE 148 06-02-87
DROP 28 21:33:03



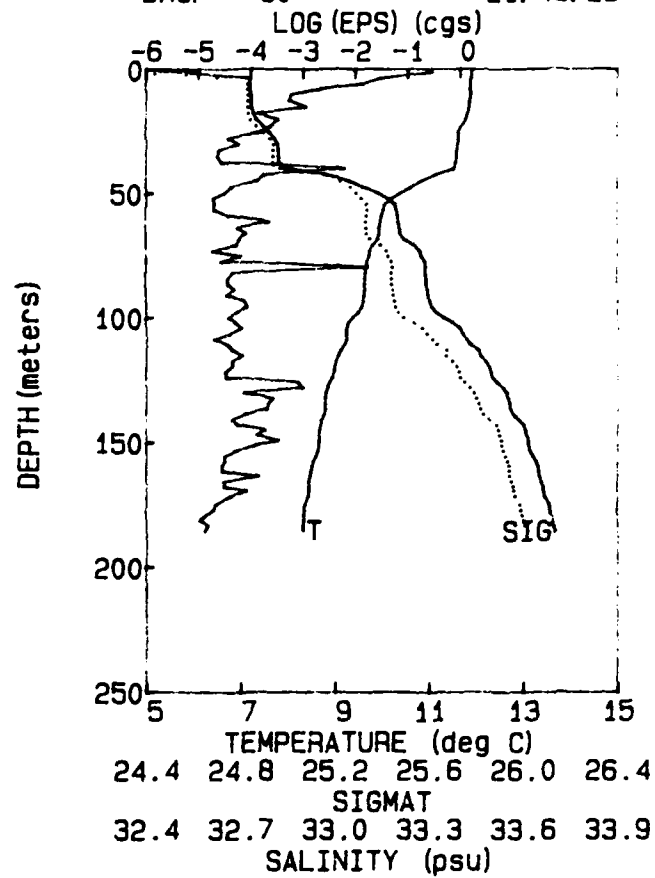
TAPE 148 06-02-87
DROP 29 21: 40: 54



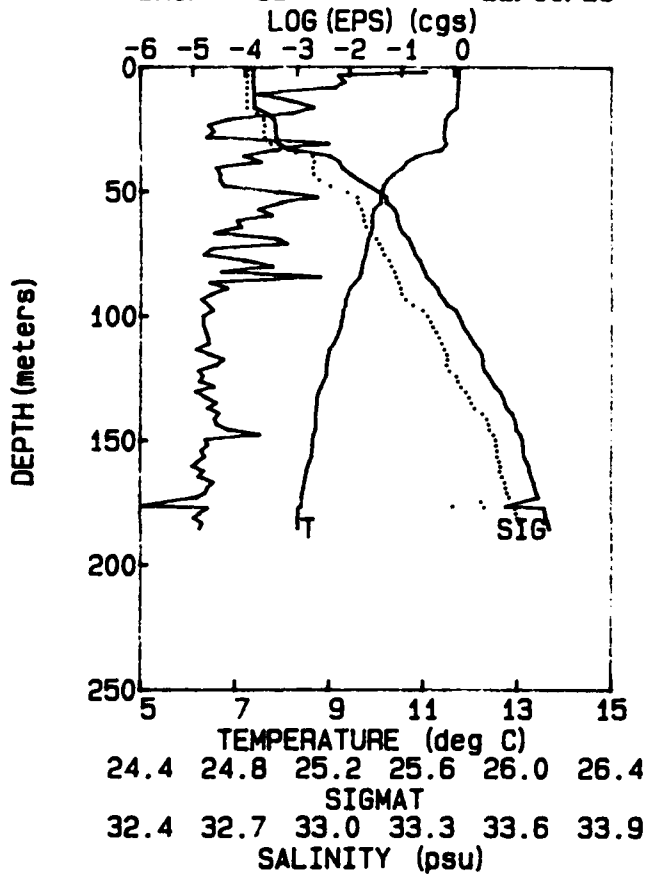
TAPE 148 06-02-87
DROP 31 21: 56: 02



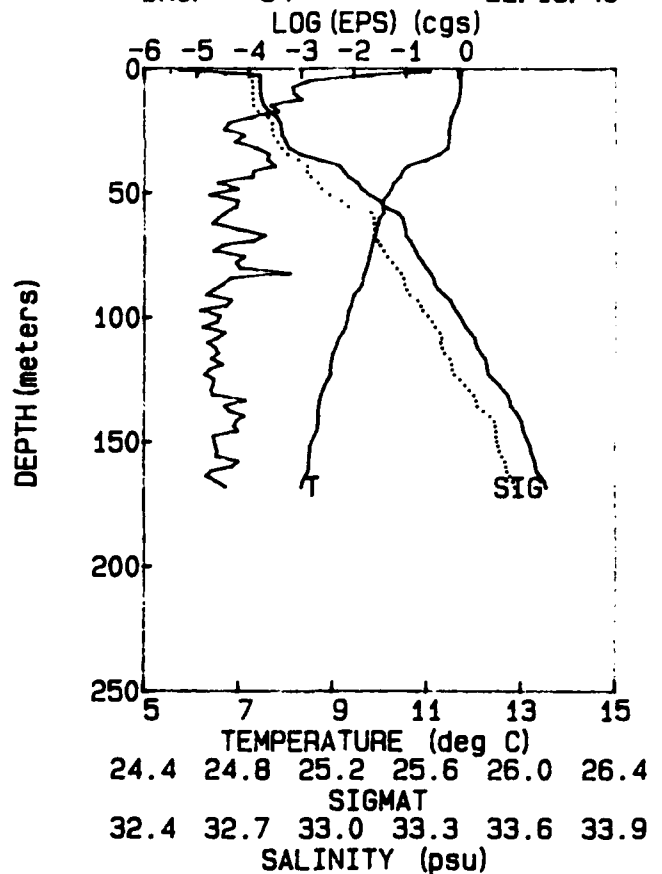
TAPE 148 06-02-87
DROP 30 21: 48: 29



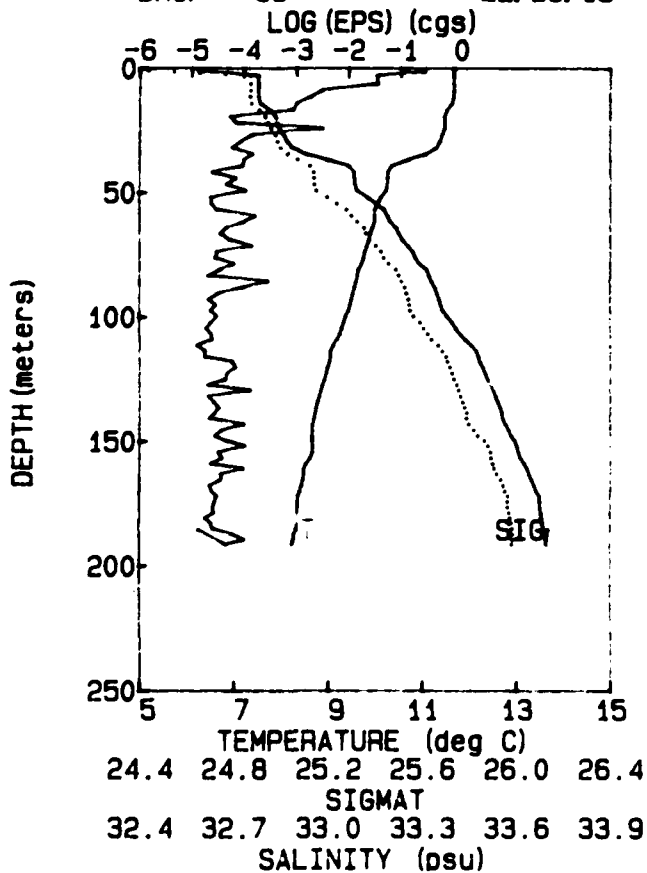
TAPE 148 06-02-87
DROP 33 22: 11: 23



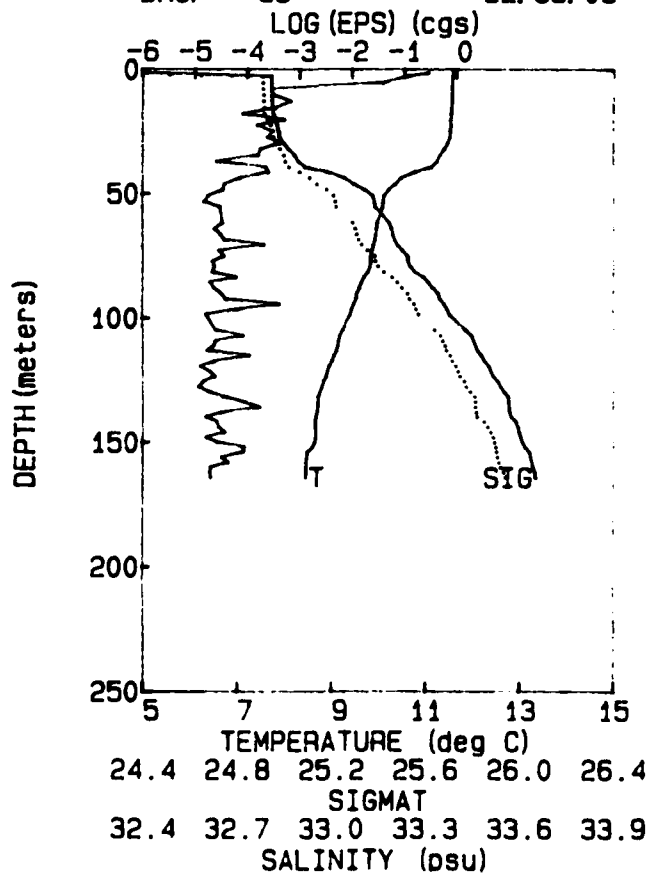
TAPE 148 06-02-87
DROP 34 22: 18: 46

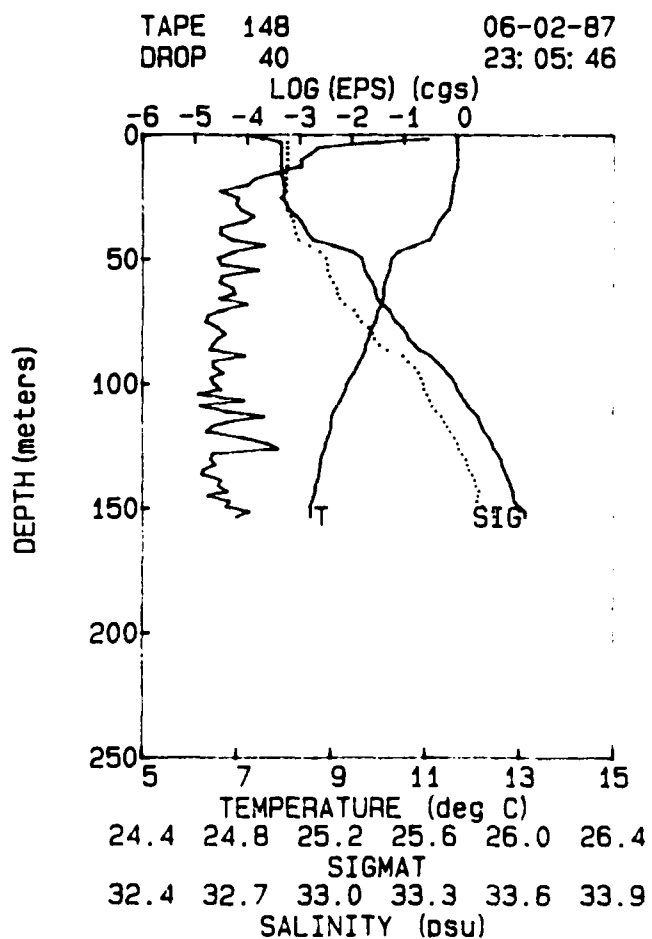
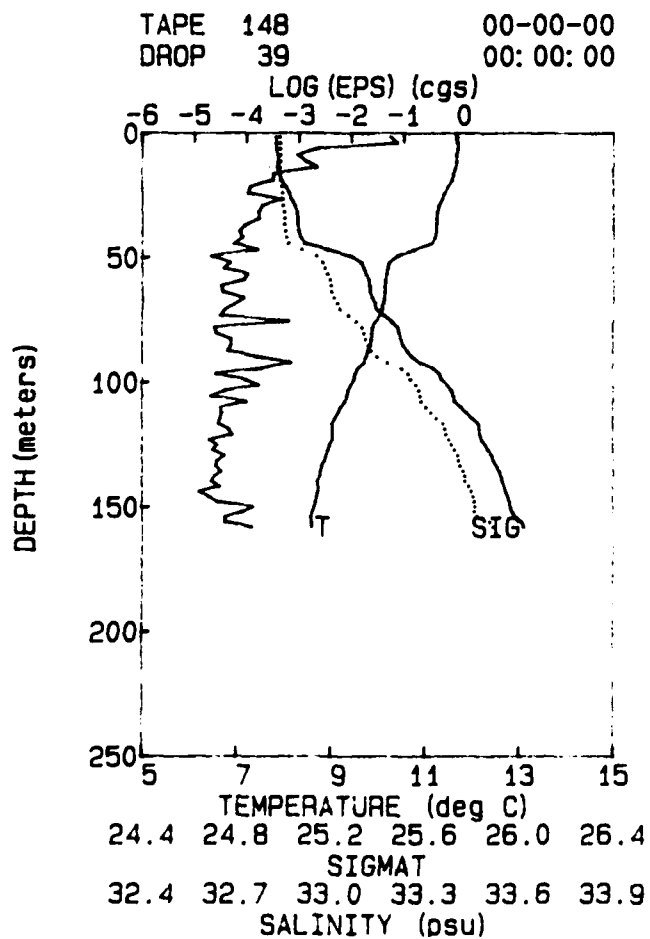
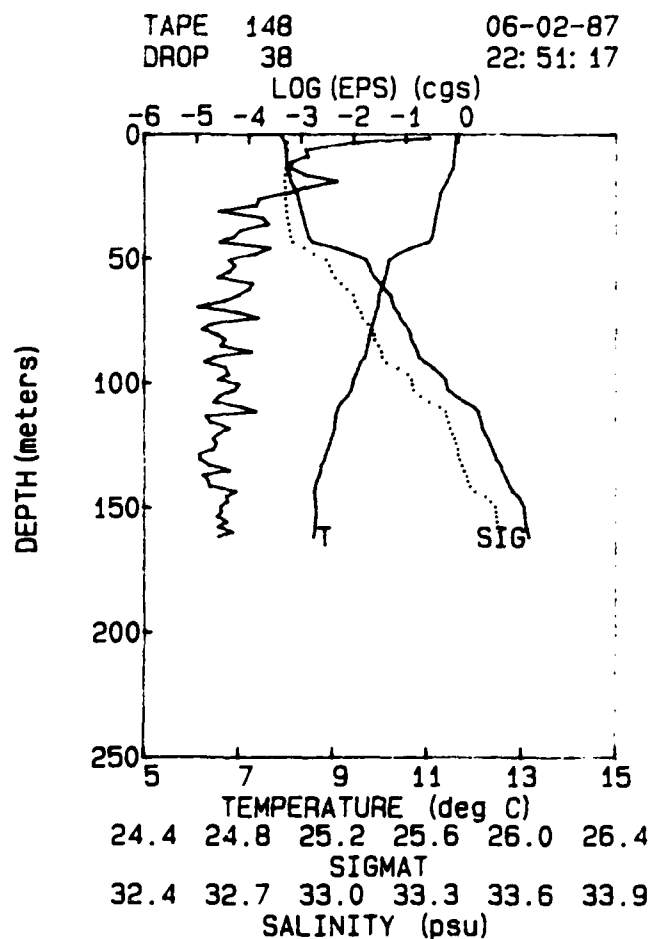
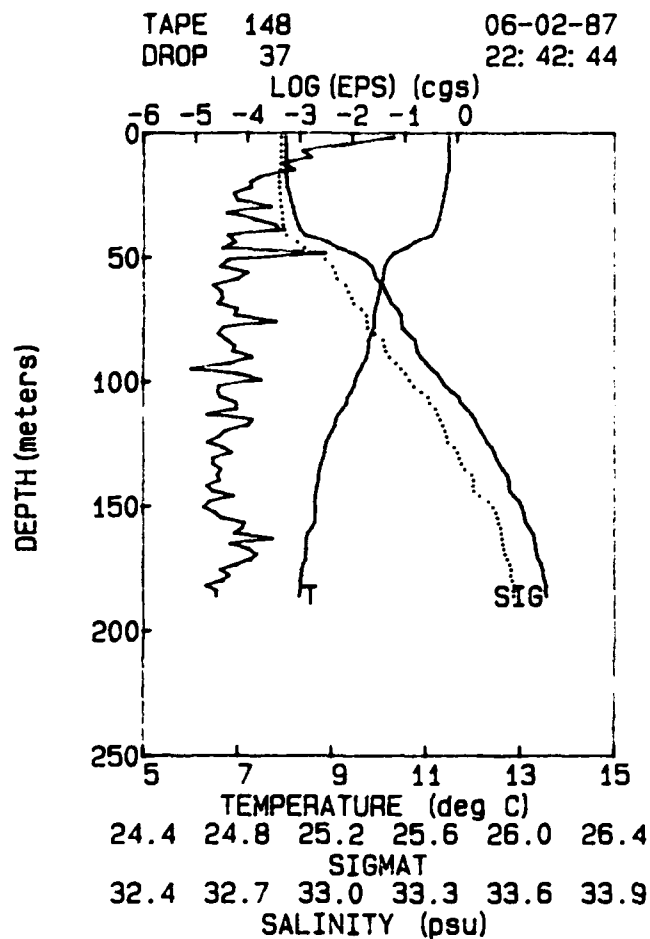


TAPE 148 06-02-87
DROP 35 22: 26: 13

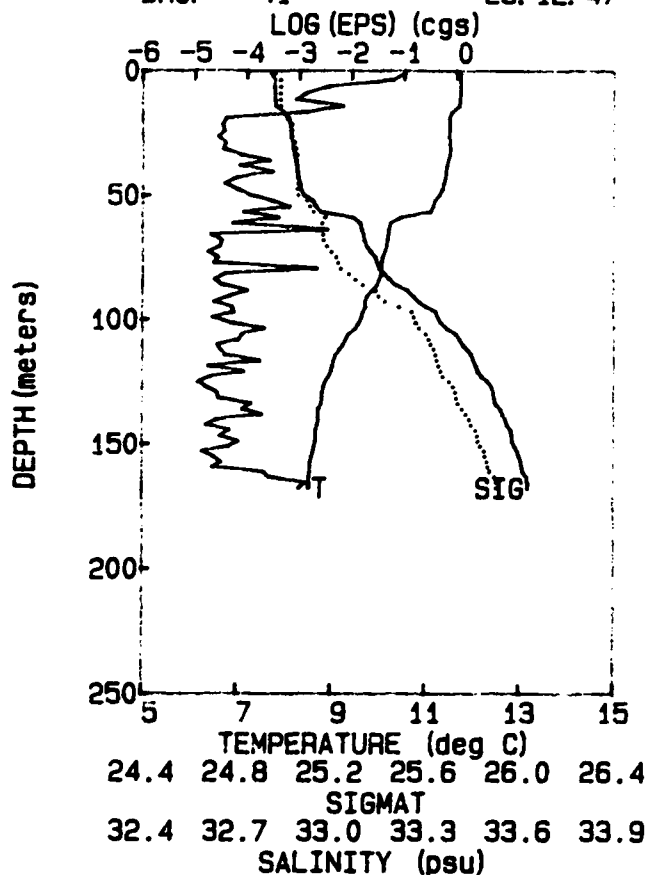


TAPE 148 06-02-87
DROP 36 22: 35: 03

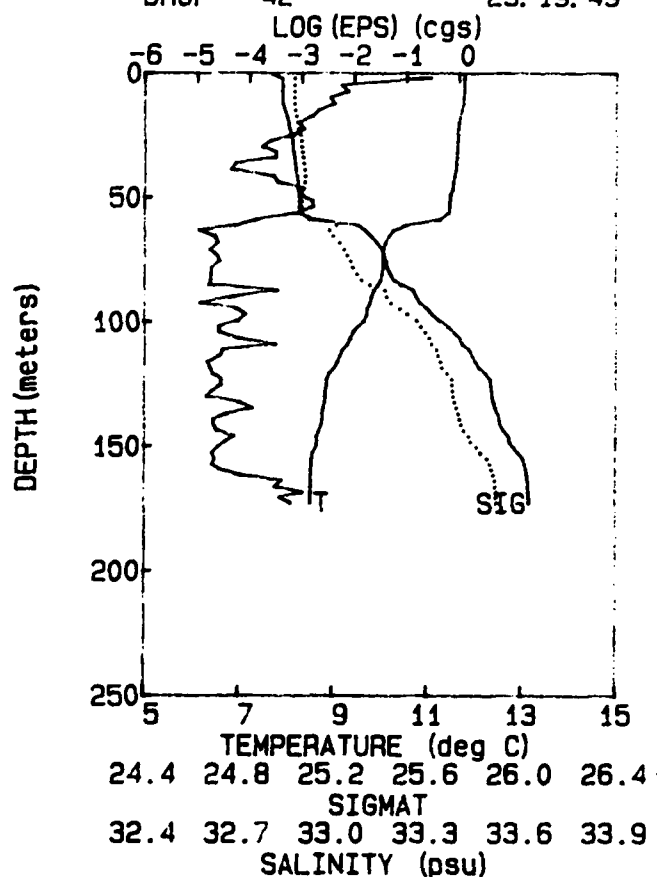




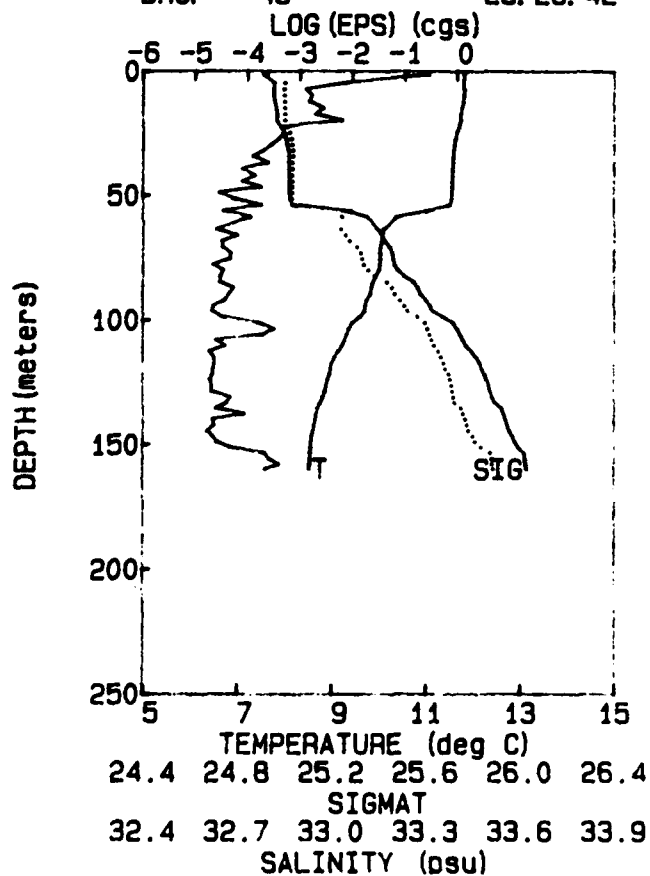
TAPE 148 06-02-87
DROP 41 23: 12: 47



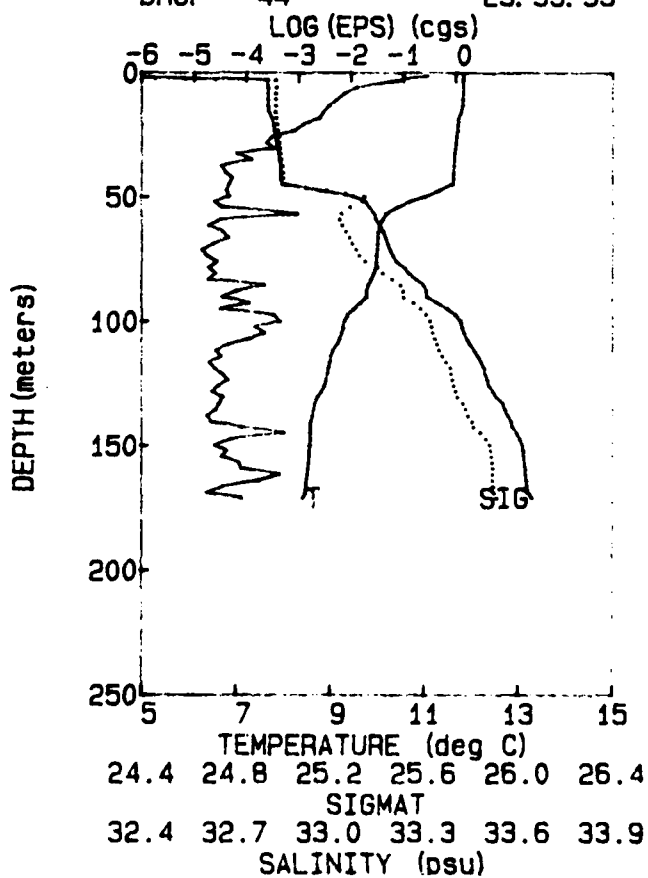
TAPE 148 06-02-87
DROP 42 23: 19: 49



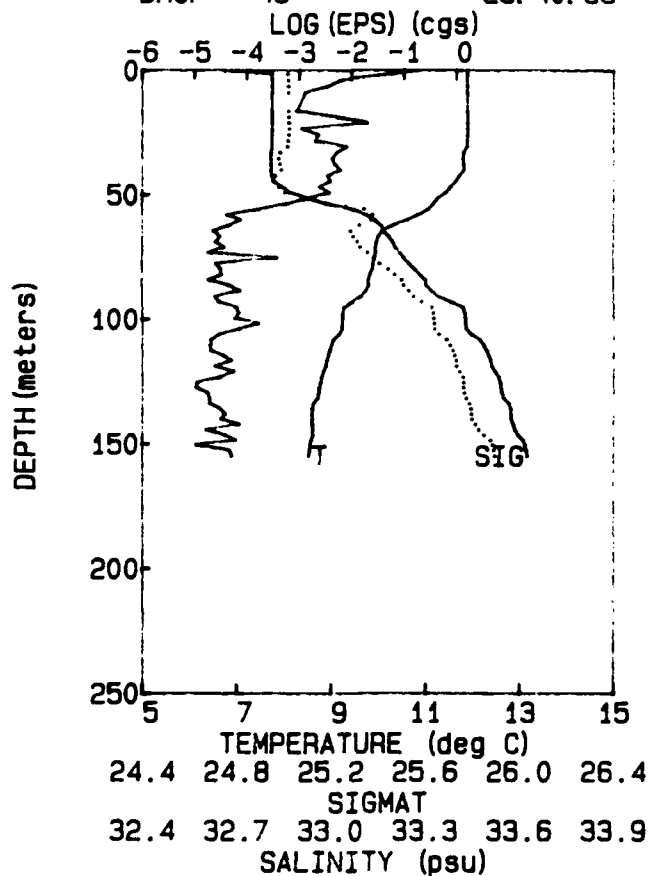
TAPE 148 06-02-87
DROP 43 23: 26: 42



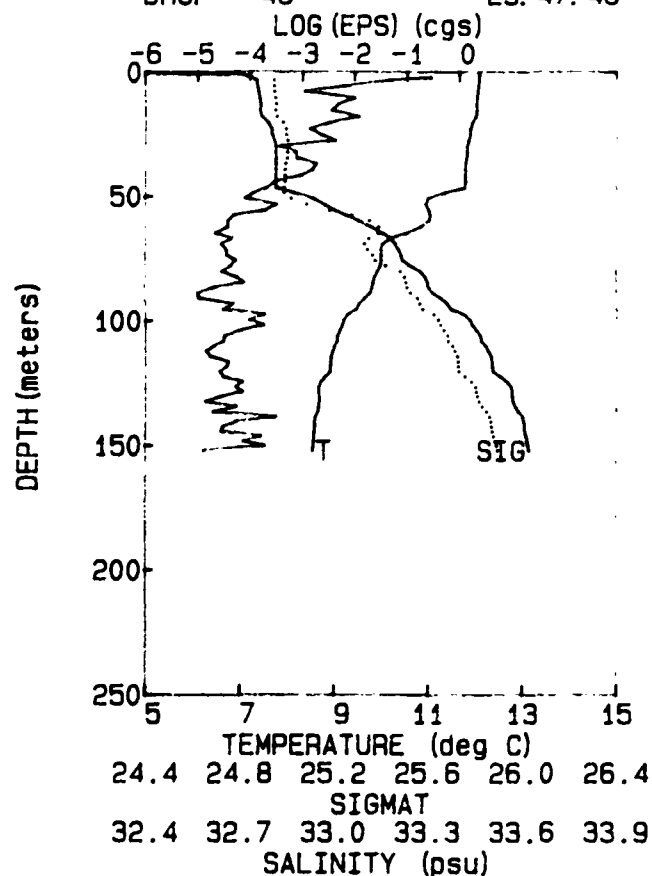
TAPE 148 06-02-87
DROP 44 23: 33: 35



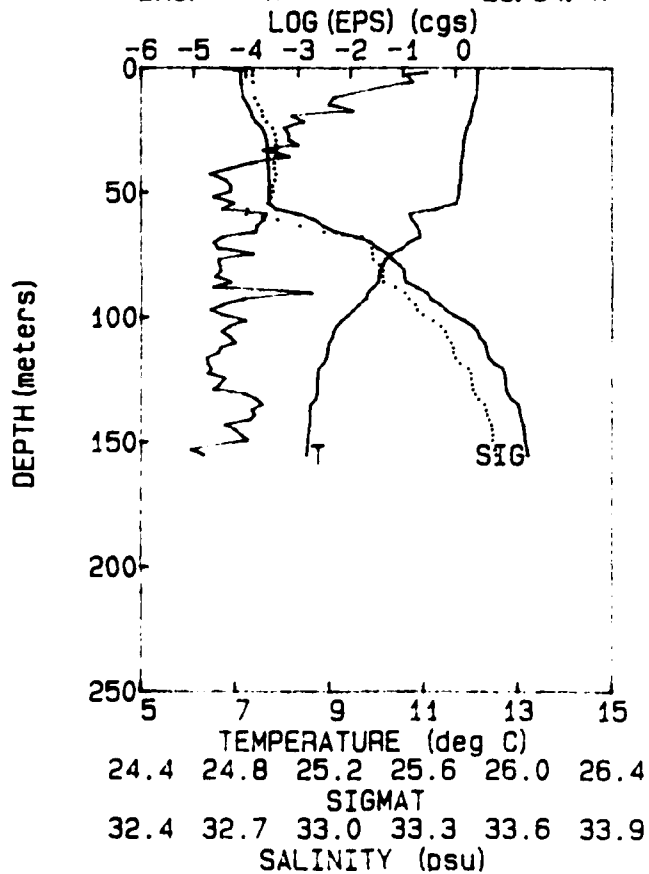
TAPE 148 06-02-87
DROP 45 23: 40: 38



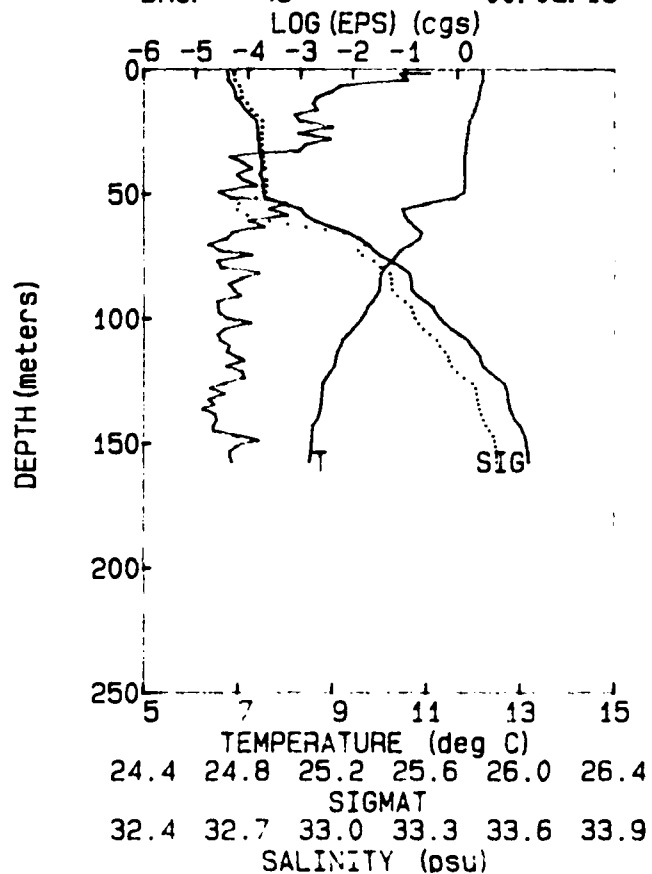
TAPE 148 06-02-87
DROP 46 23: 47: 46



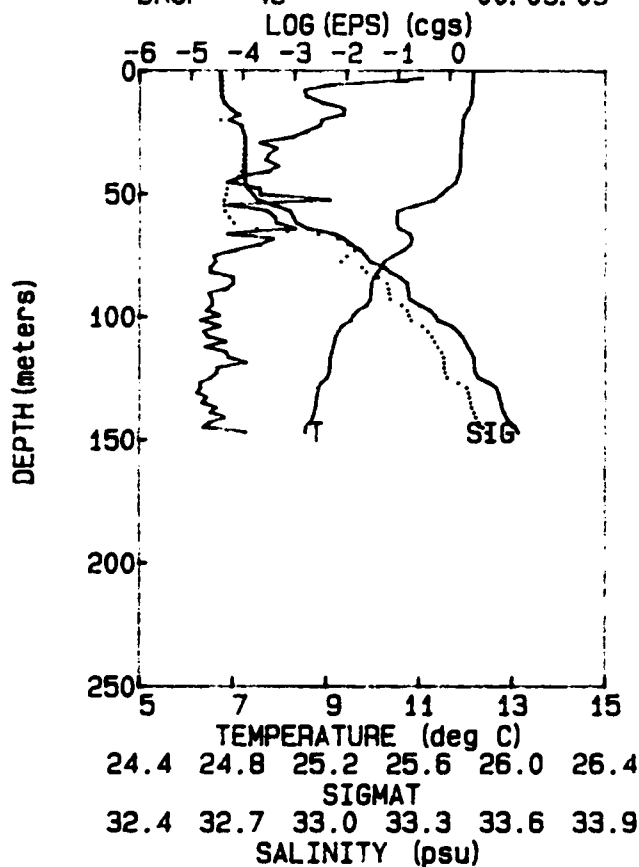
TAPE 148 06-02-87
DROP 47 23: 54: 47



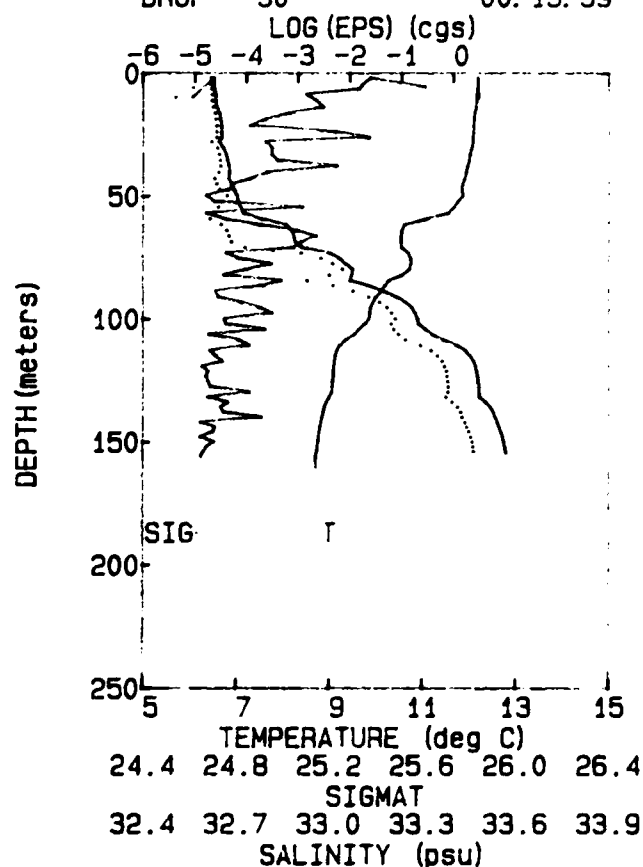
TAPE 148 06-03-87
DROP 48 00: 02: 18



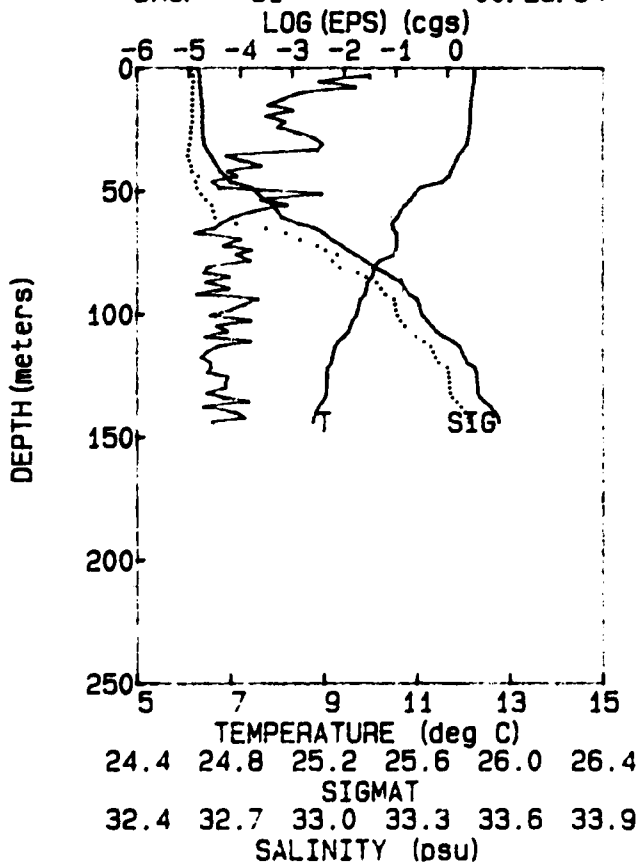
TAPE 148 06-03-87
DROP 49 00: 09: 09



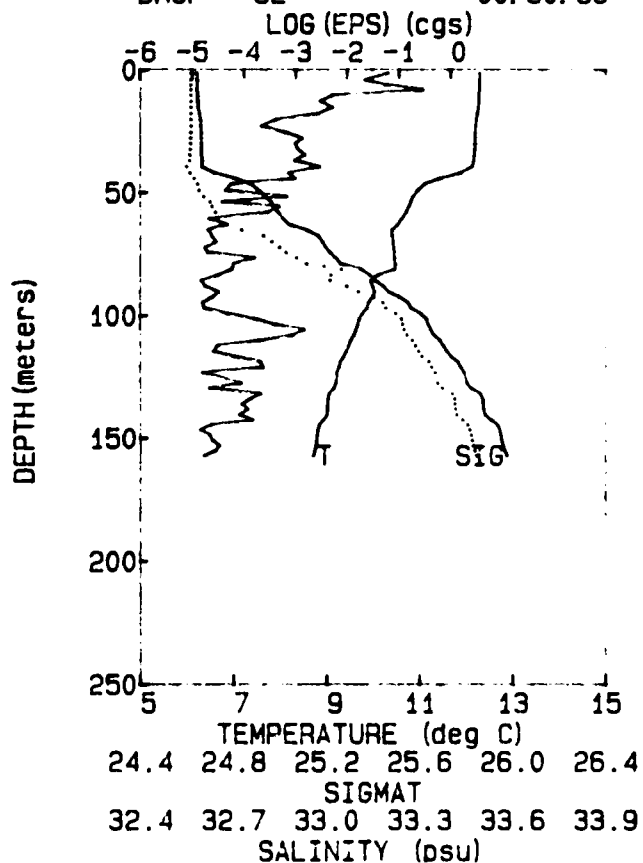
TAPE 148 06-03-87
DROP 50 00: 15: 59

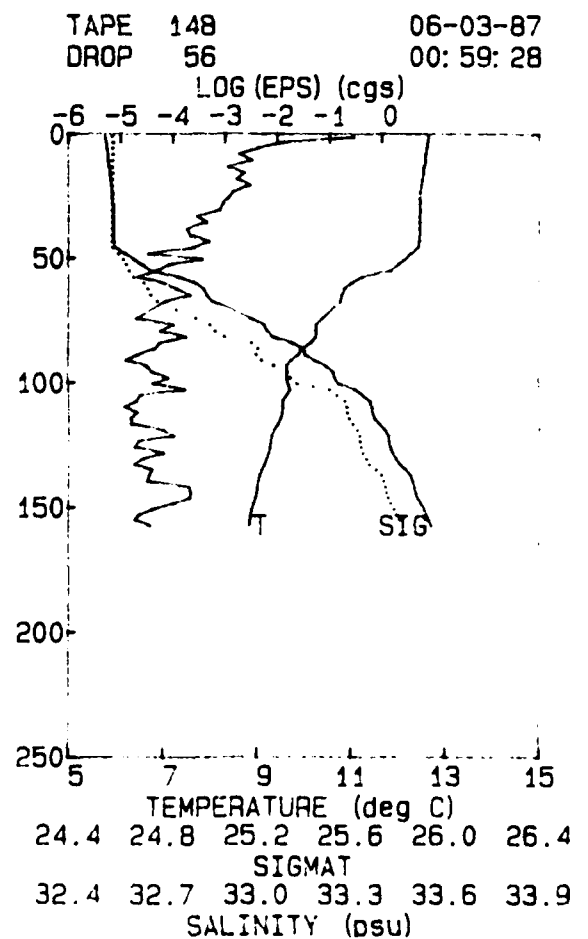
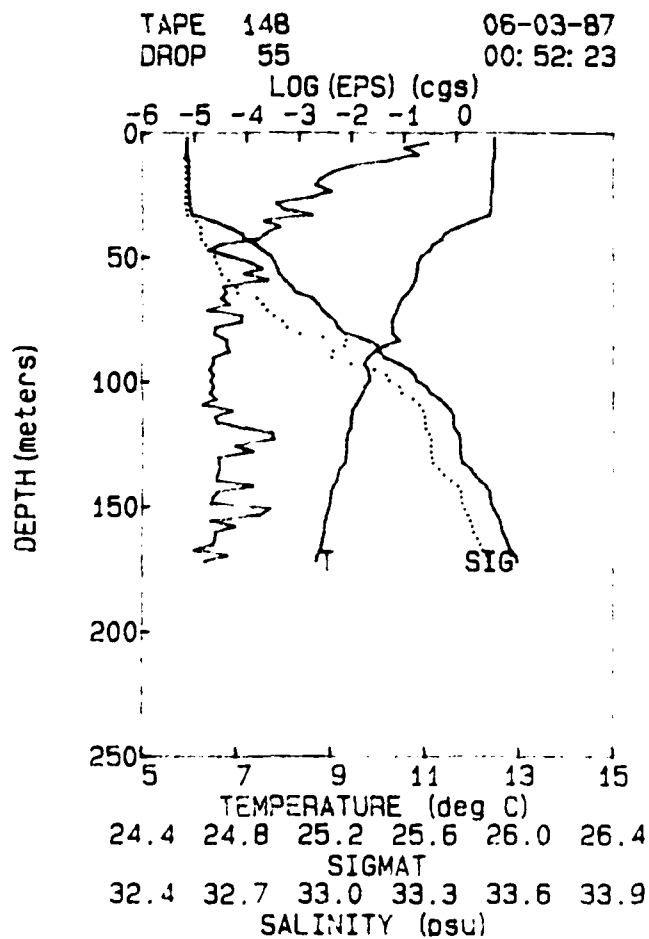
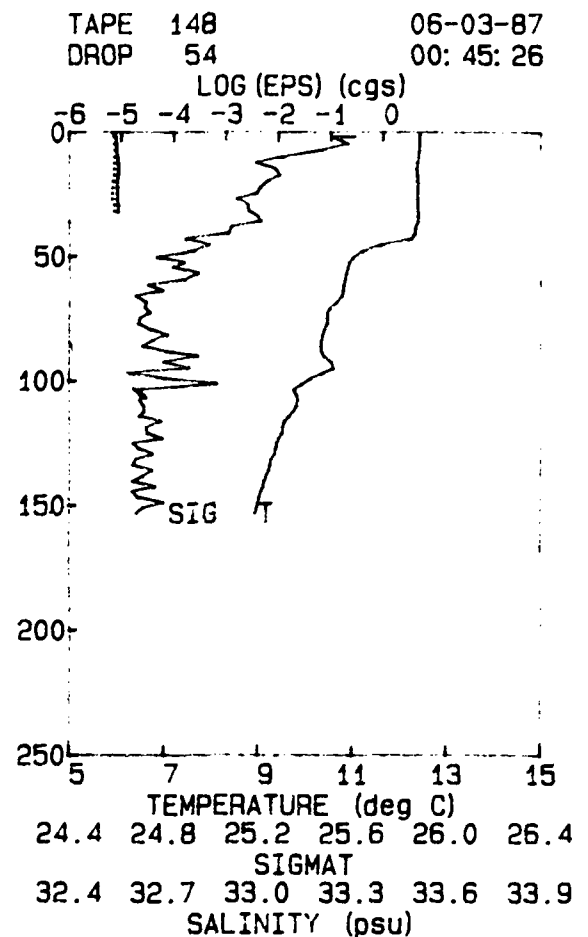
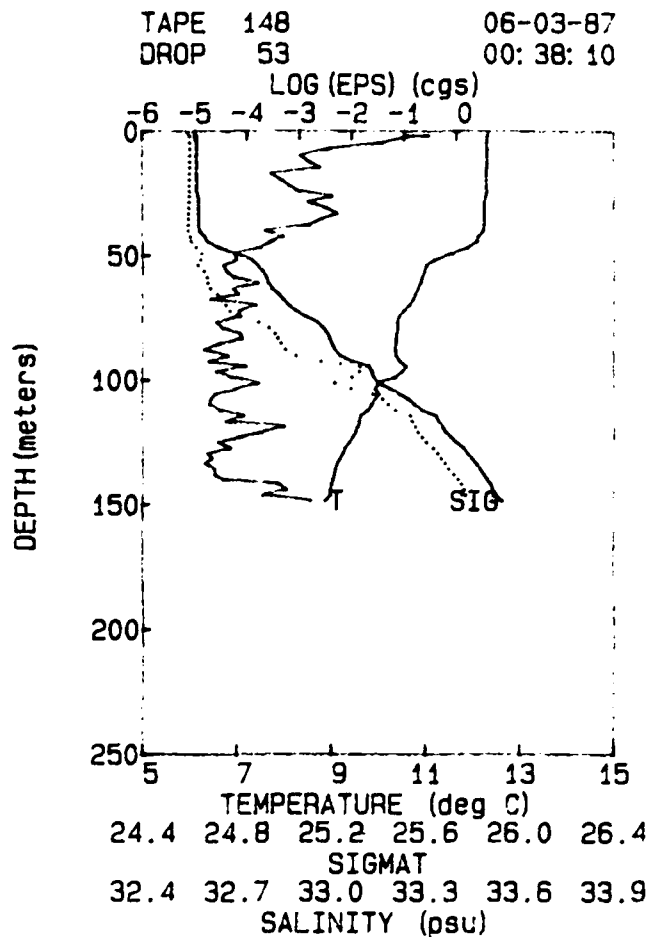


TAPE 148 06-03-87
DROP 51 00: 23: 54

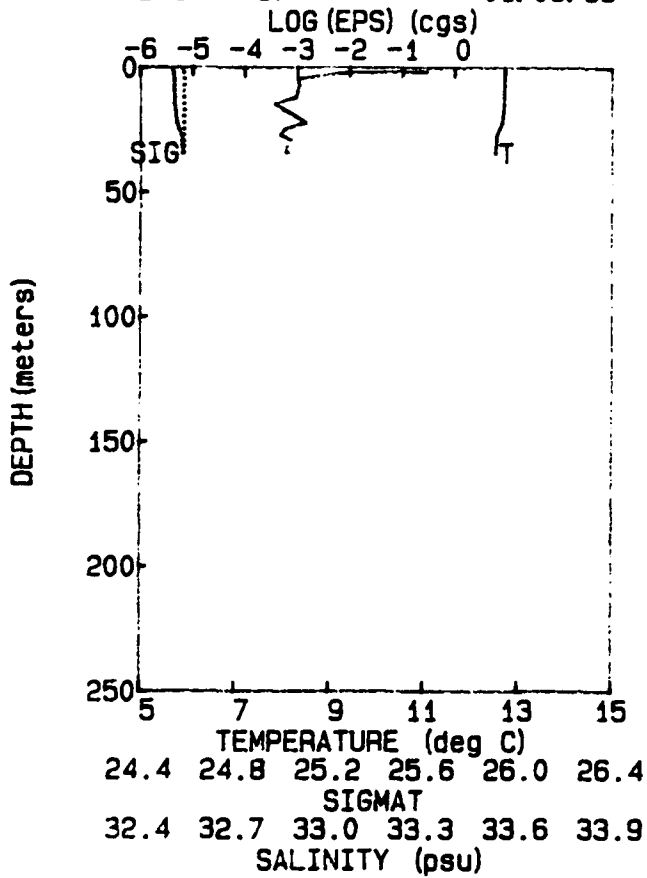


TAPE 148 06-03-87
DROP 52 00: 30: 56

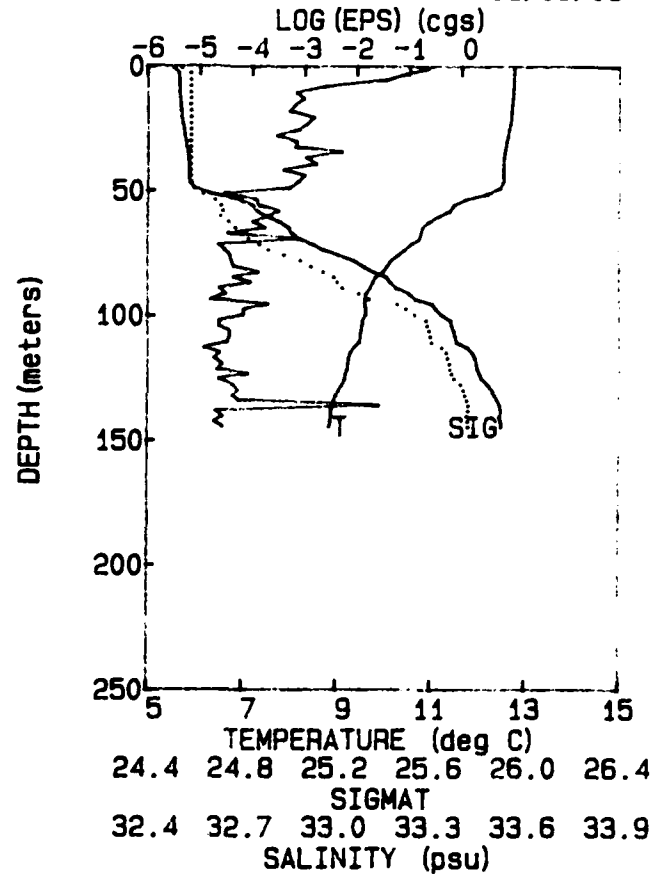




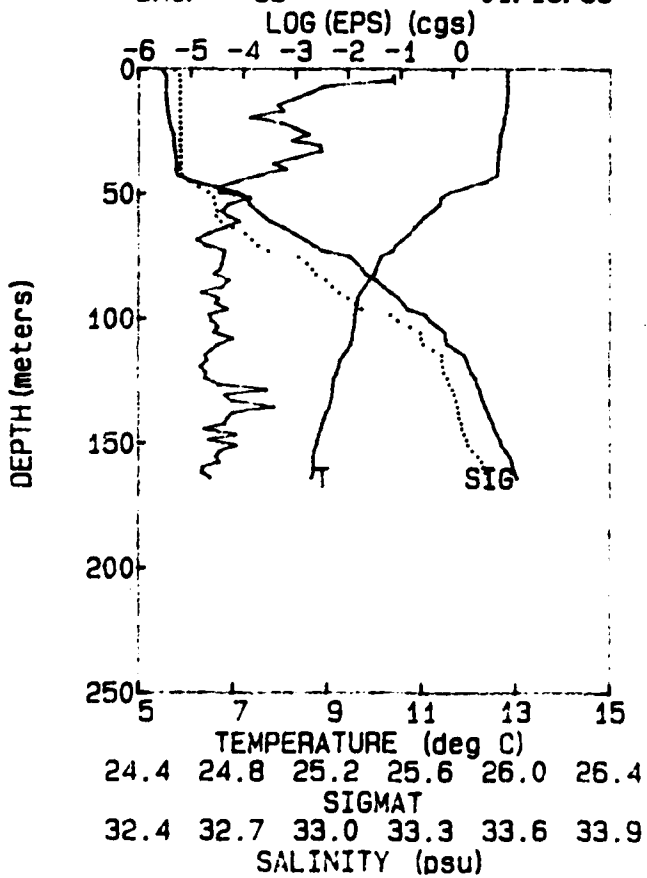
TAPE 148 06-03-87
DROP 57 01:06:38



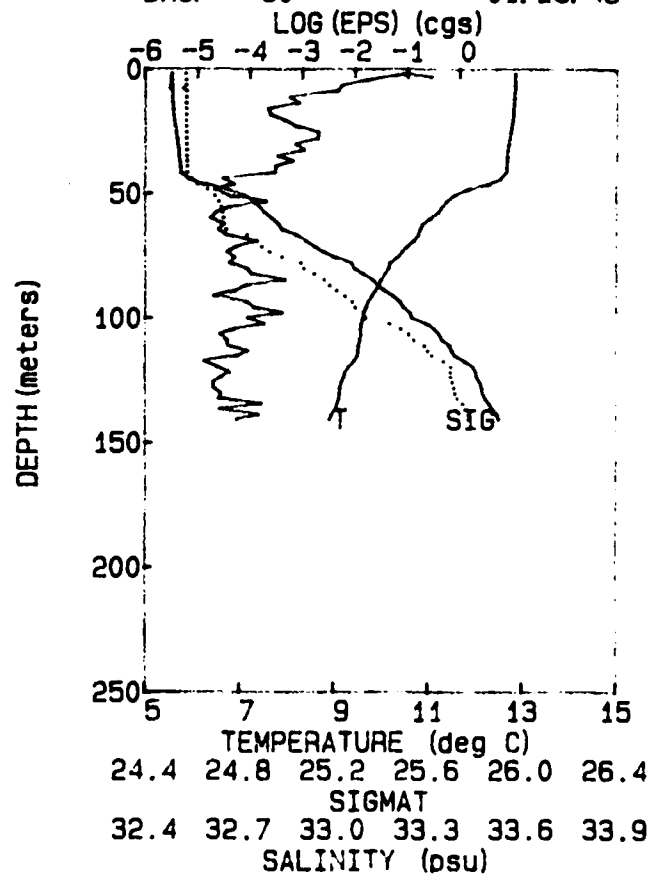
TAPE 148 06-03-87
DROP 58 01:09:08

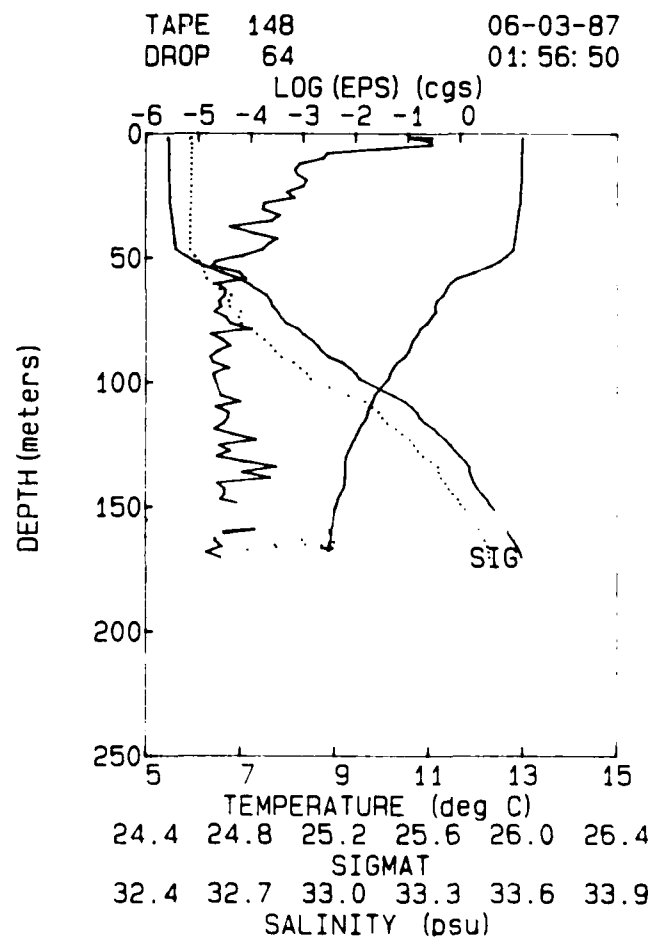
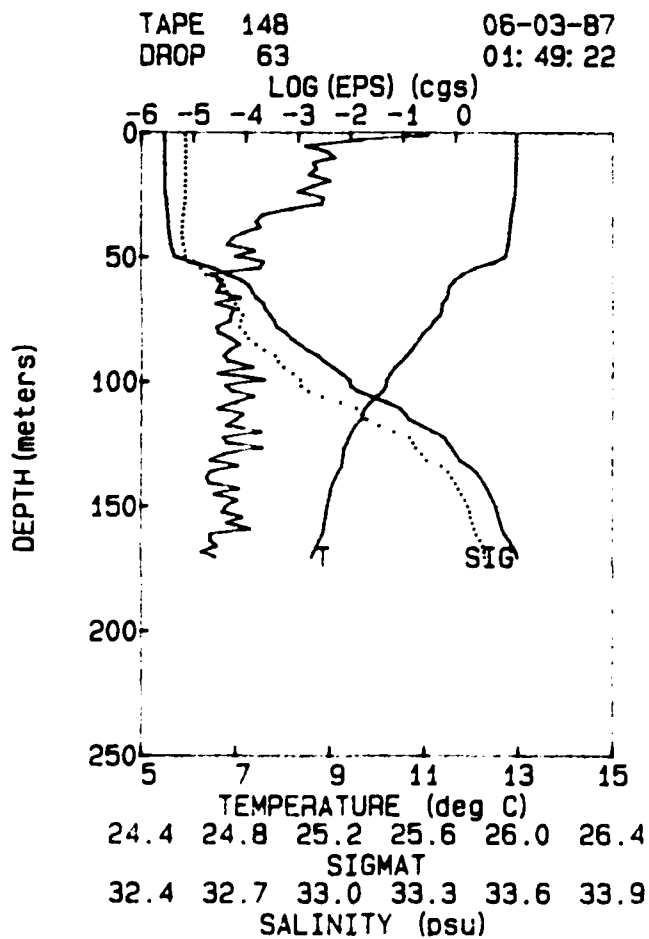
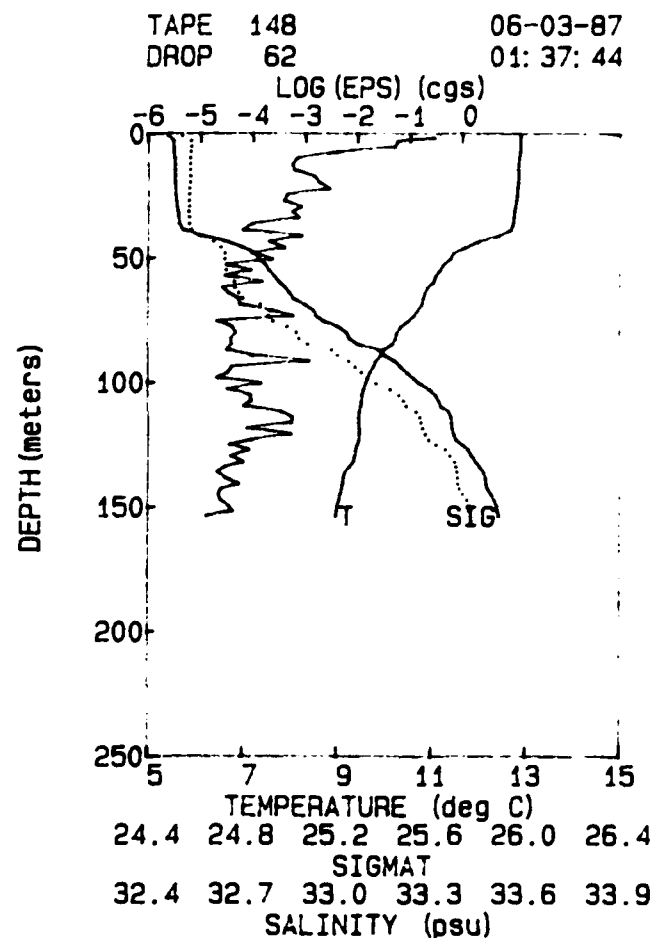
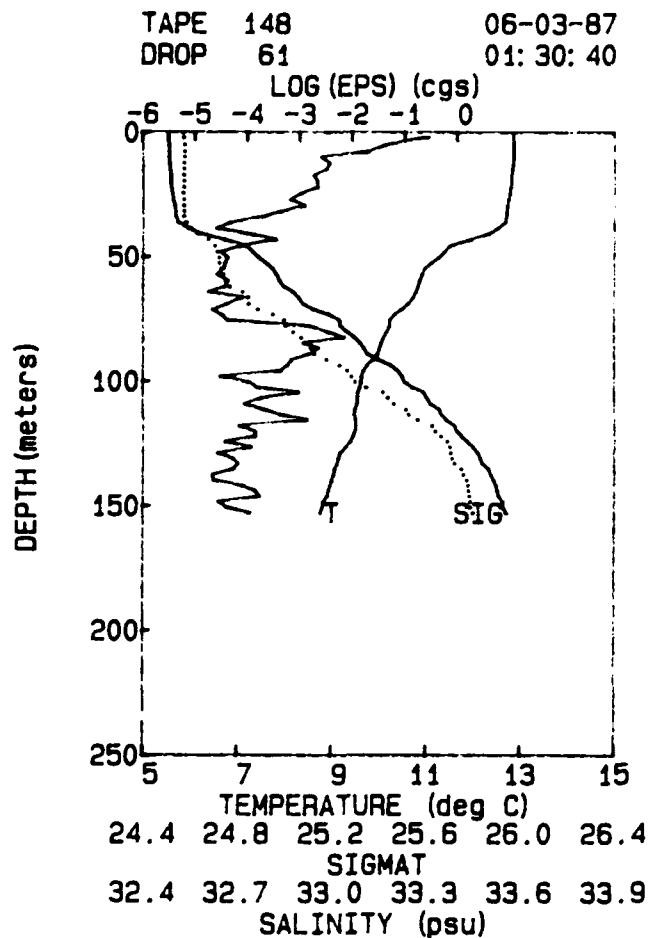


TAPE 148 06-03-87
DROP 59 01:16:56

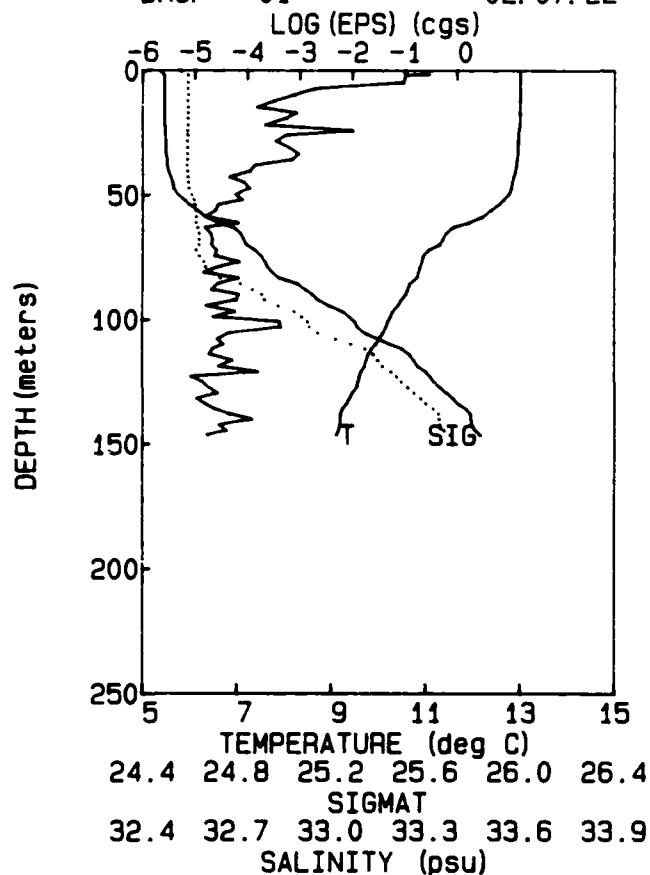


TAPE 148 06-03-87
DROP 60 01:23:48

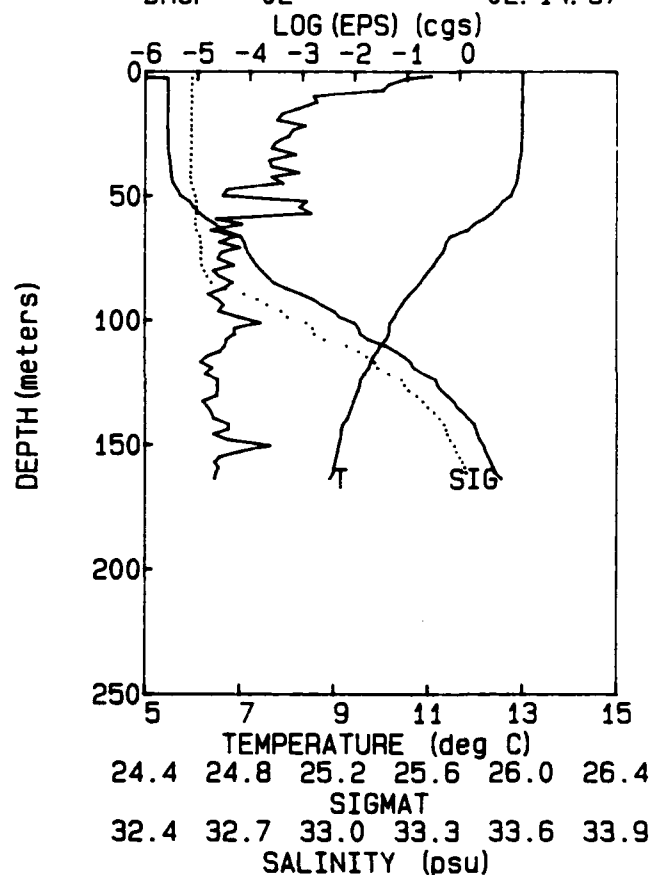




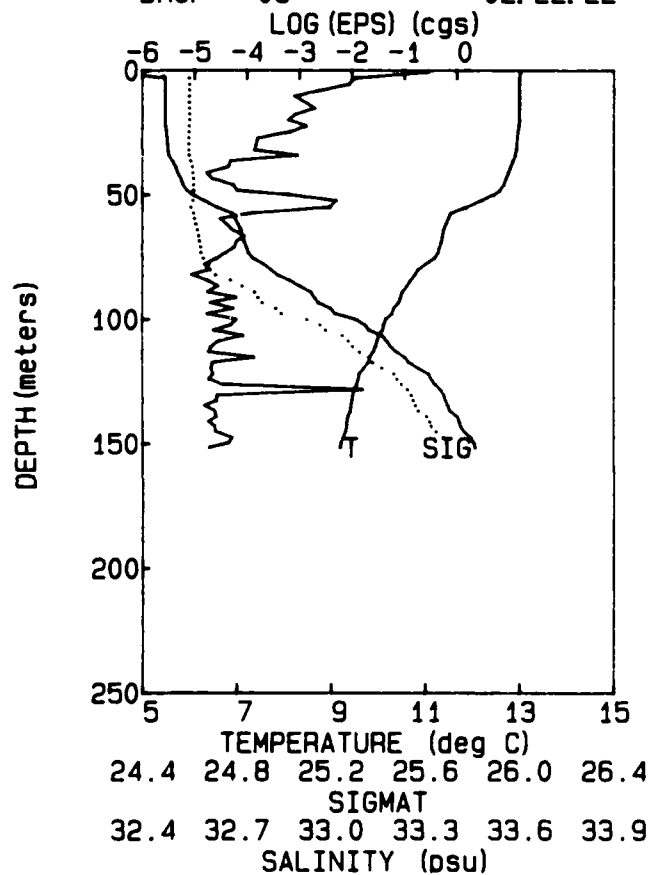
TAPE 149 06-03-87
DROP 01 02:07:22



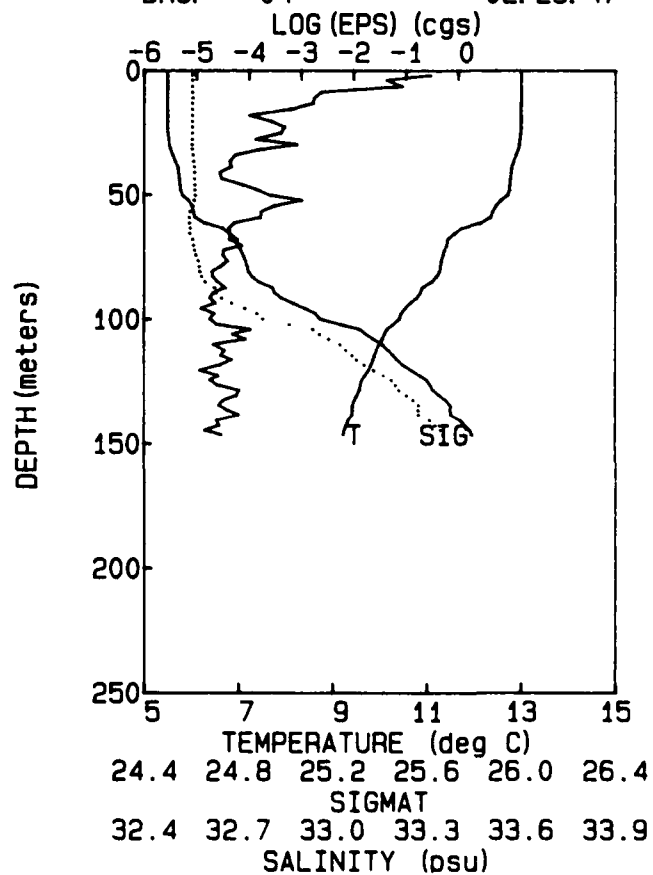
TAPE 149 06-03-87
DROP 02 02:14:37



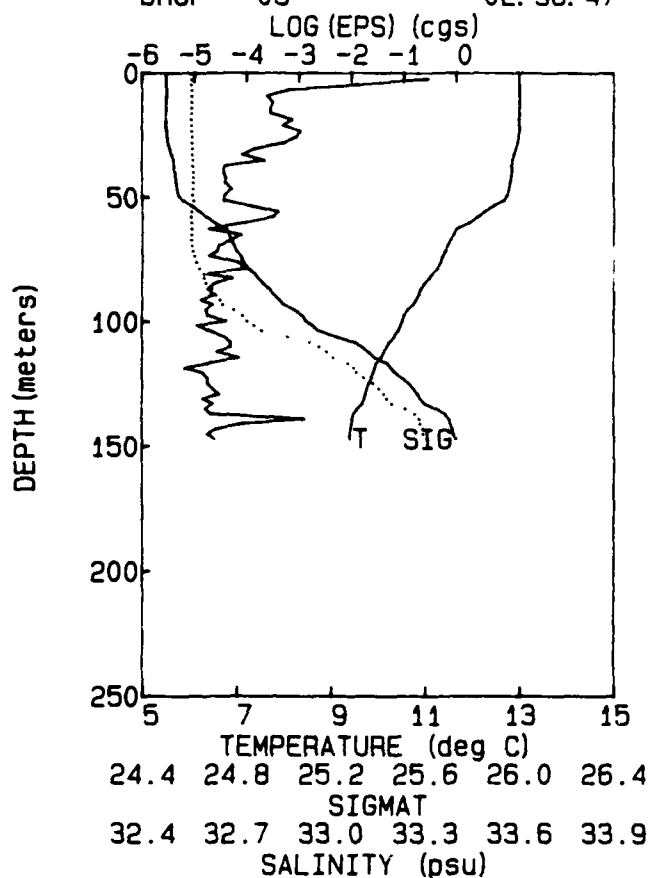
TAPE 149 06-03-87
DROP 03 02:22:22



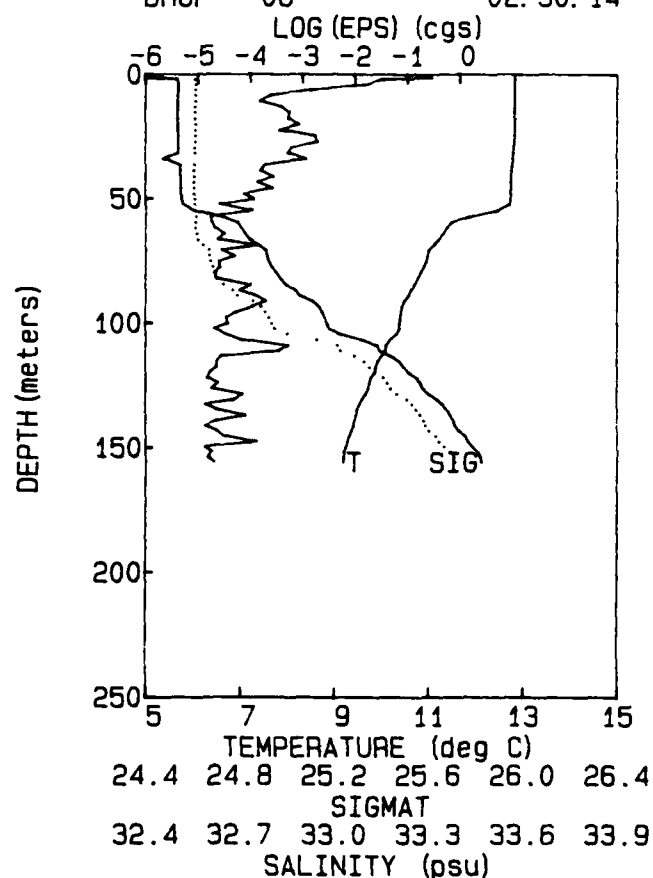
TAPE 149 00--3-35
DROP 04 02:29:47



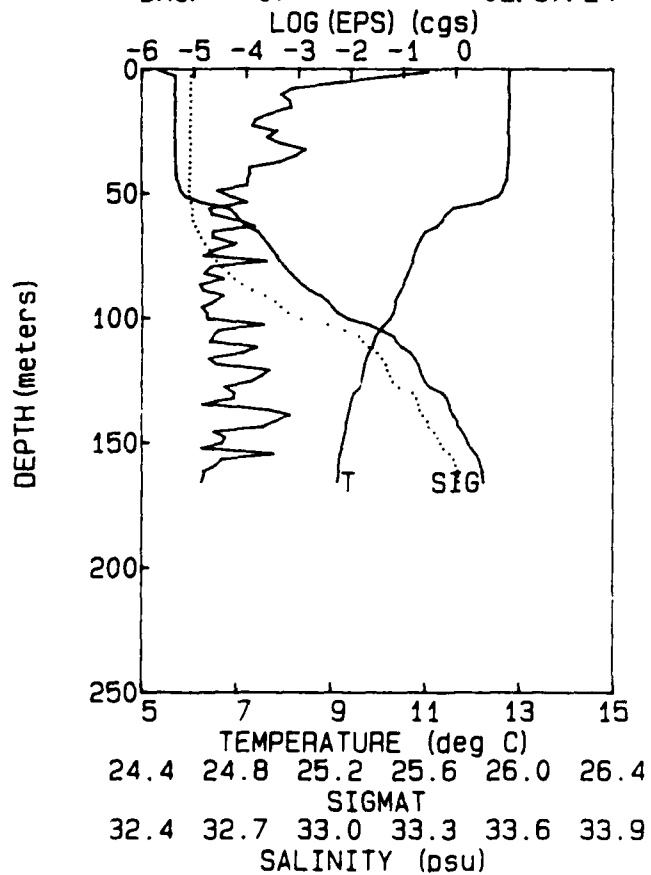
TAPE 149 06-03-87
DROP 05 02:36:47



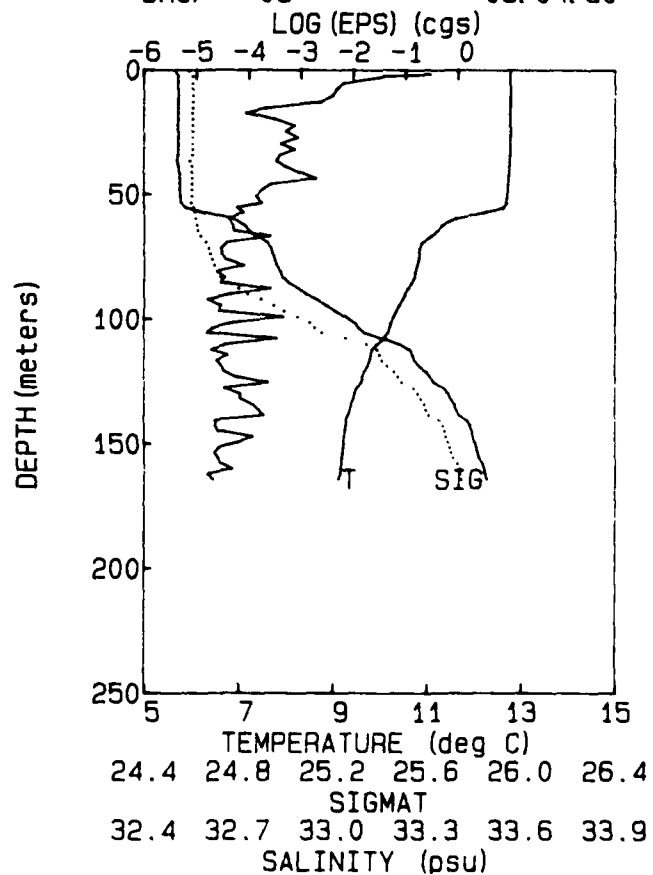
TAPE 149 06-03-87
DROP 06 02:50:14

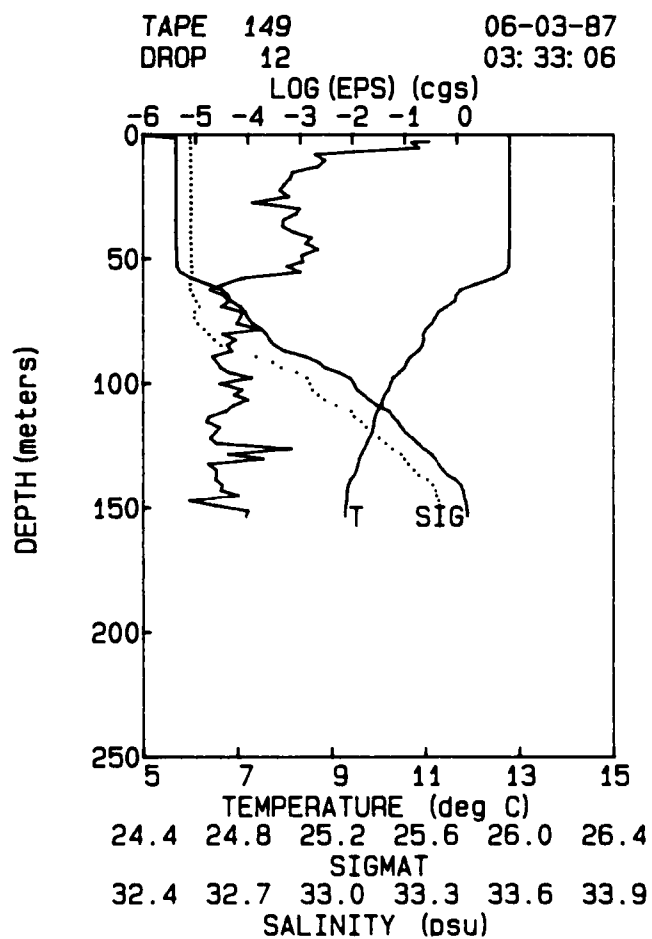
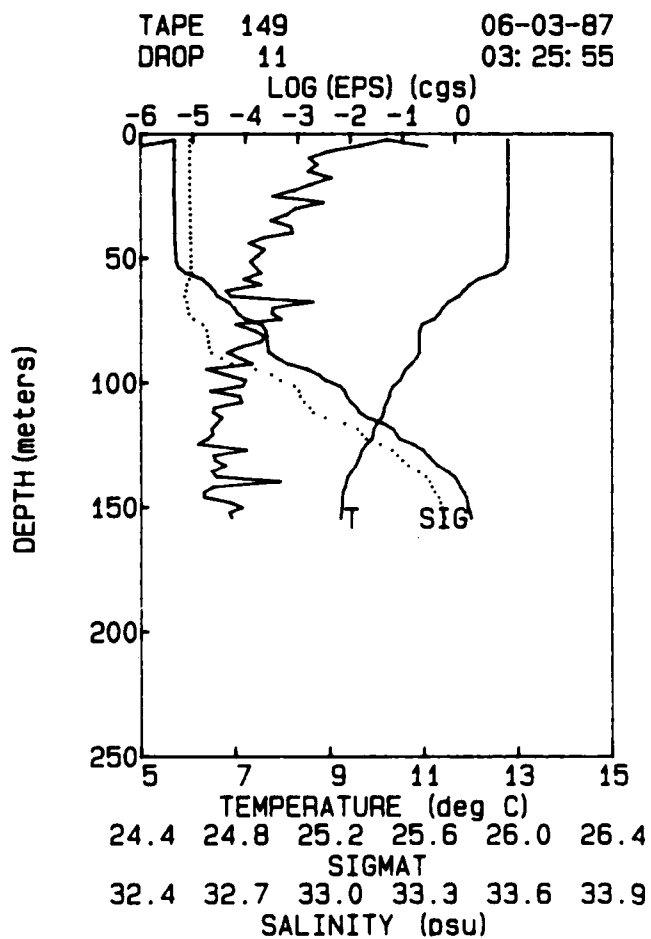
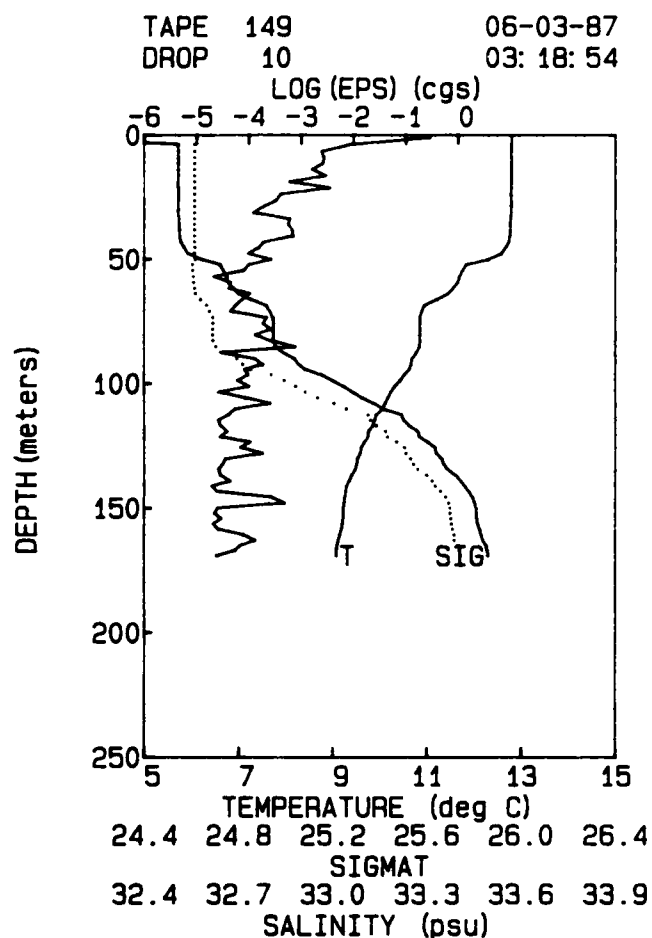
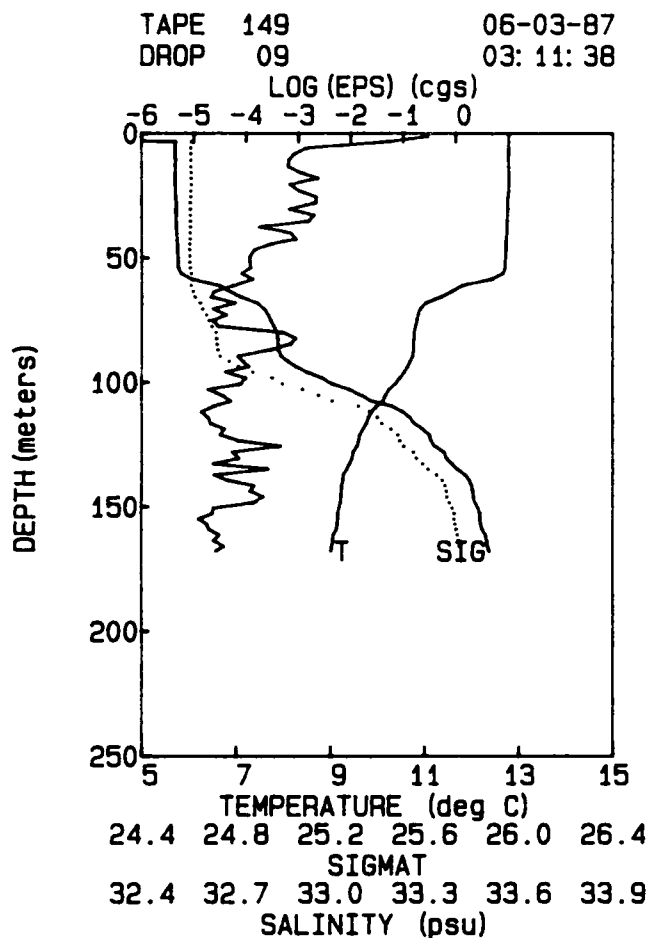


TAPE 149 06-03-87
DROP 07 02:57:24

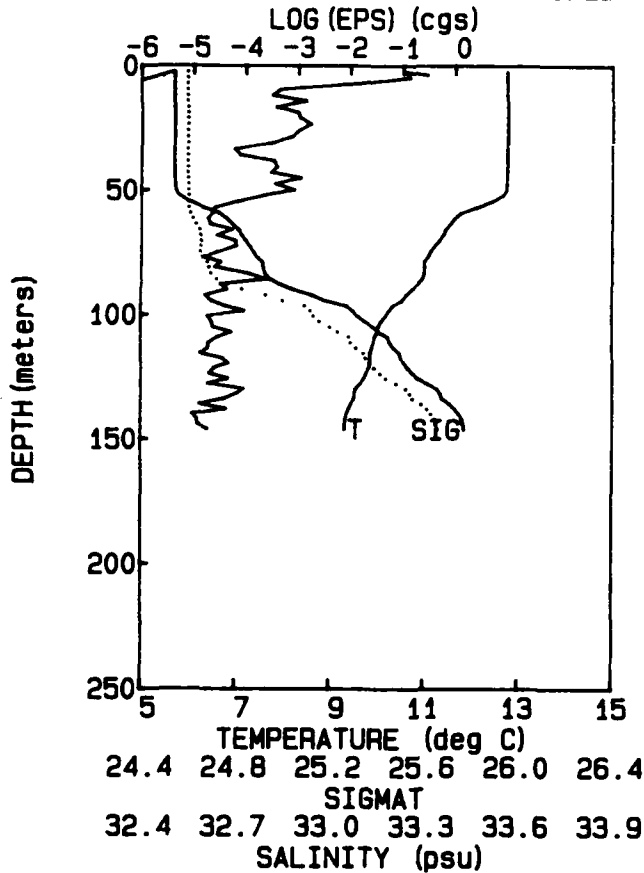


TAPE 149 06-03-87
DROP 08 03:04:30

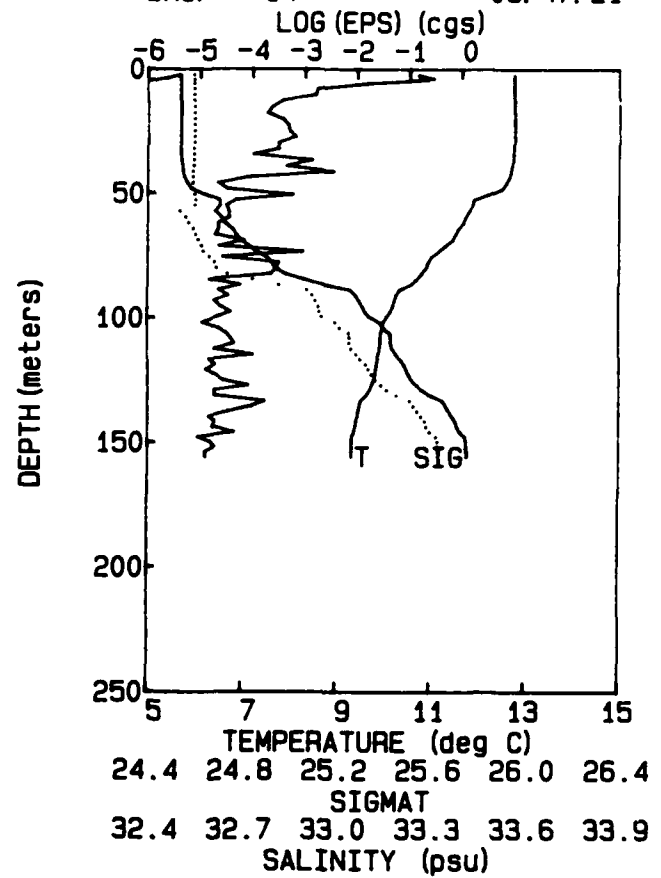




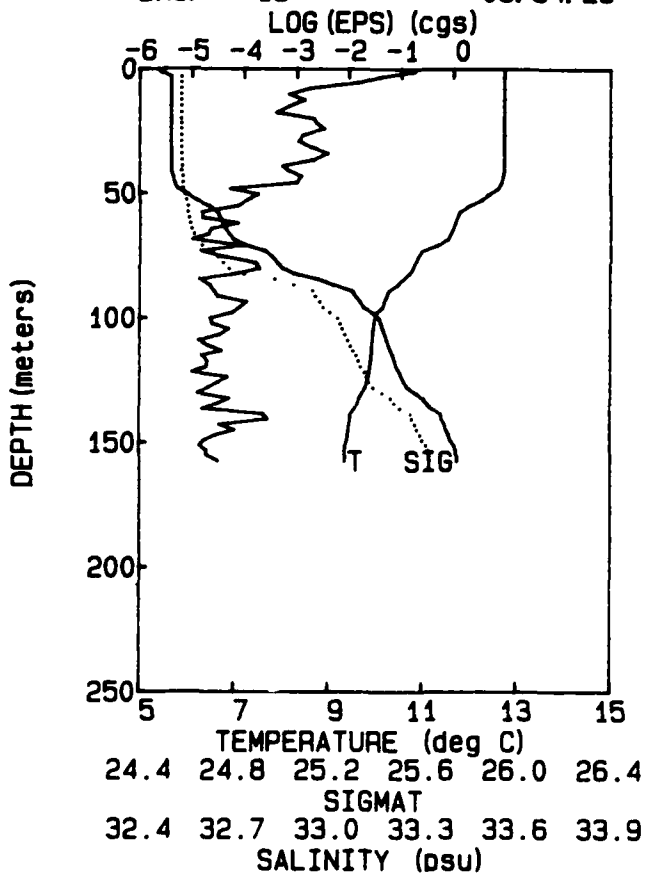
TAPE 149 06-03-87
DROP 13 03: 40: 22



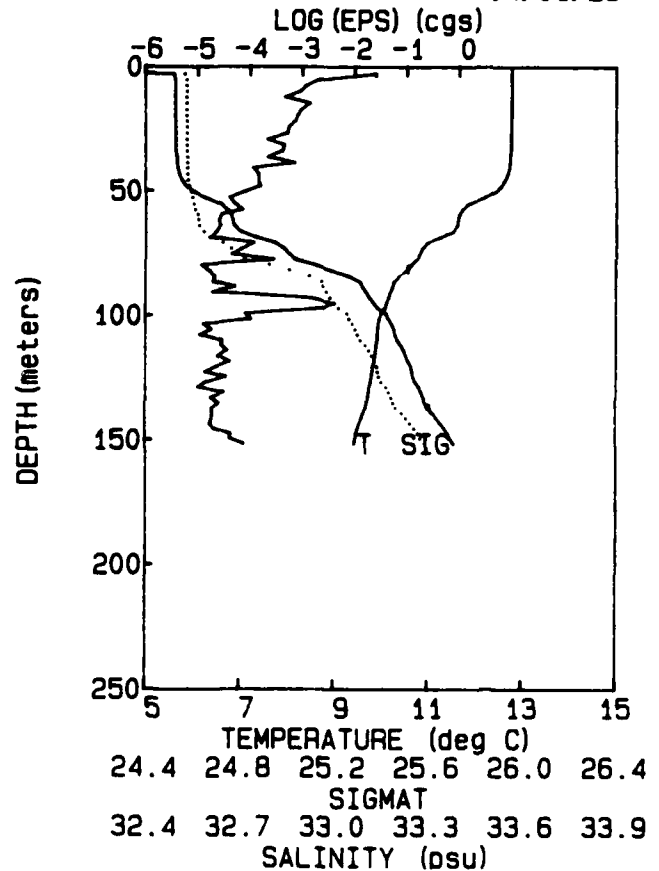
TAPE 149 06-03-87
DROP 14 03: 47: 21

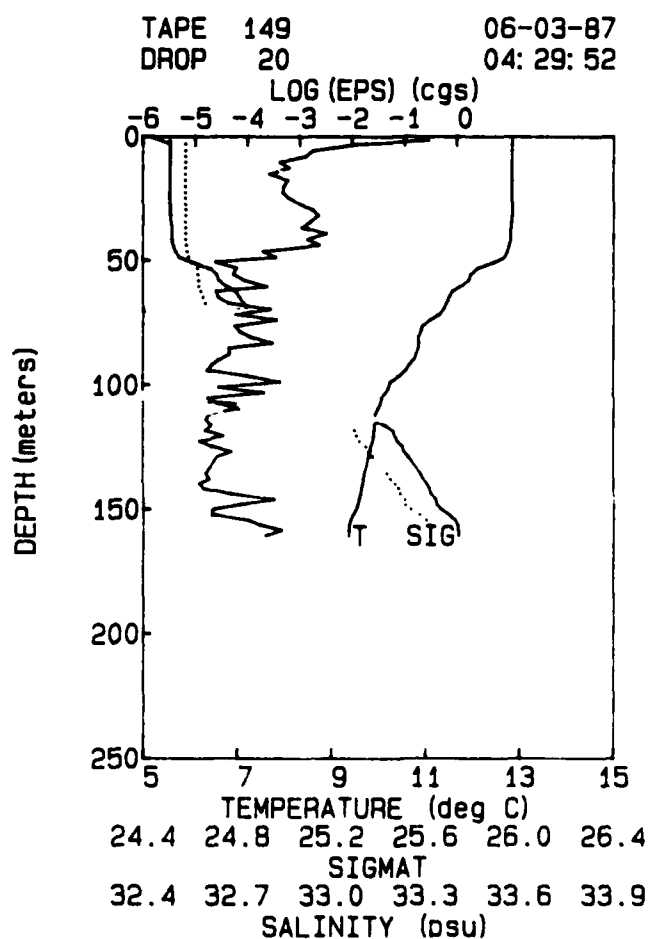
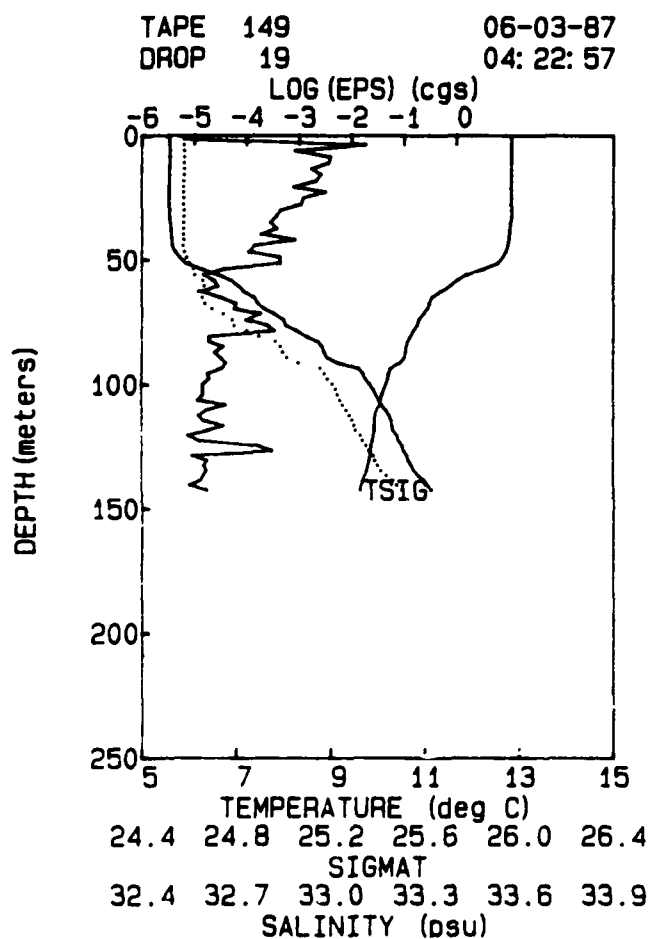
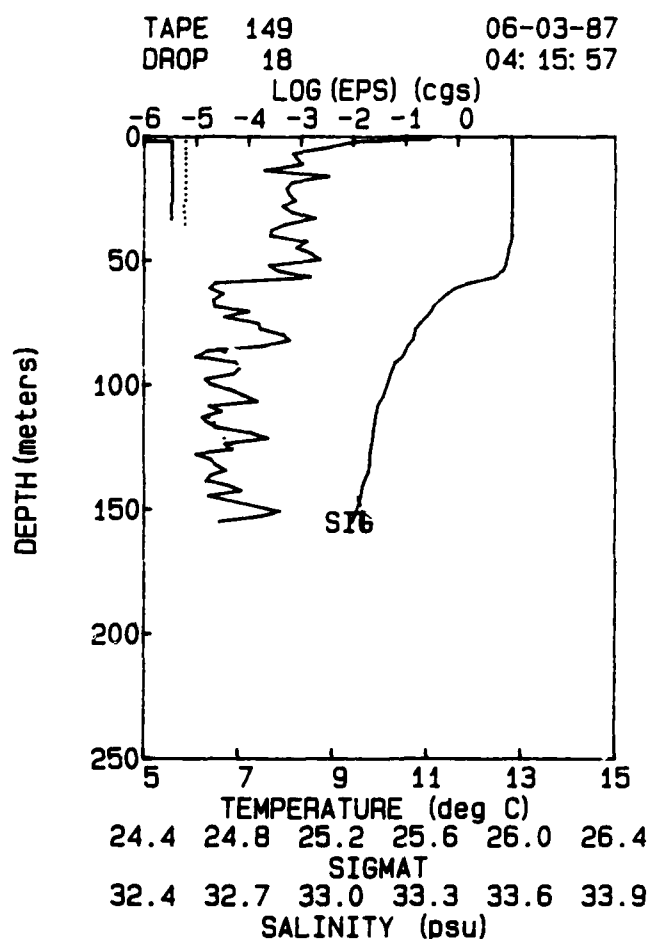
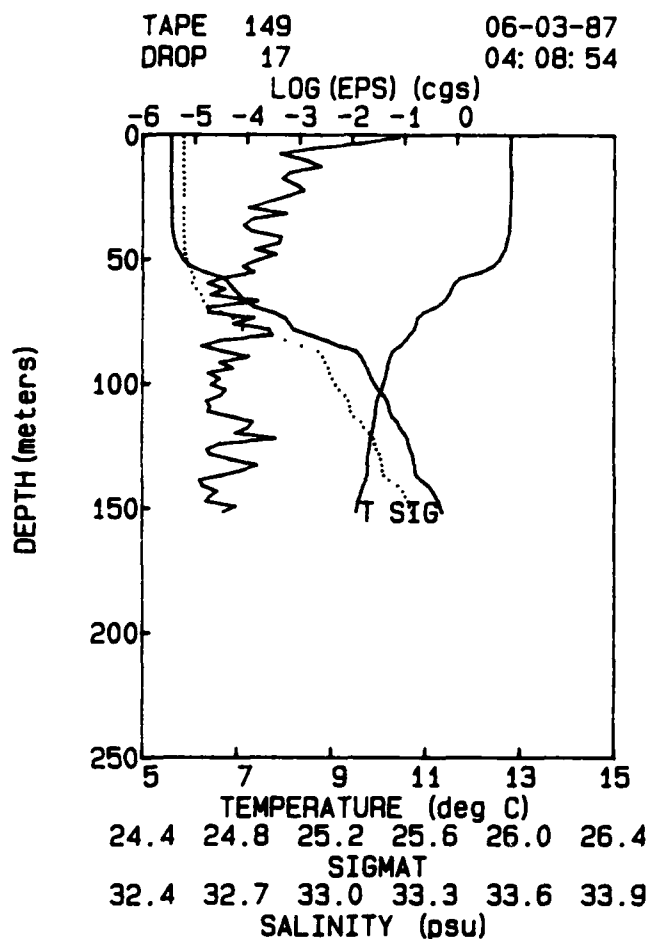


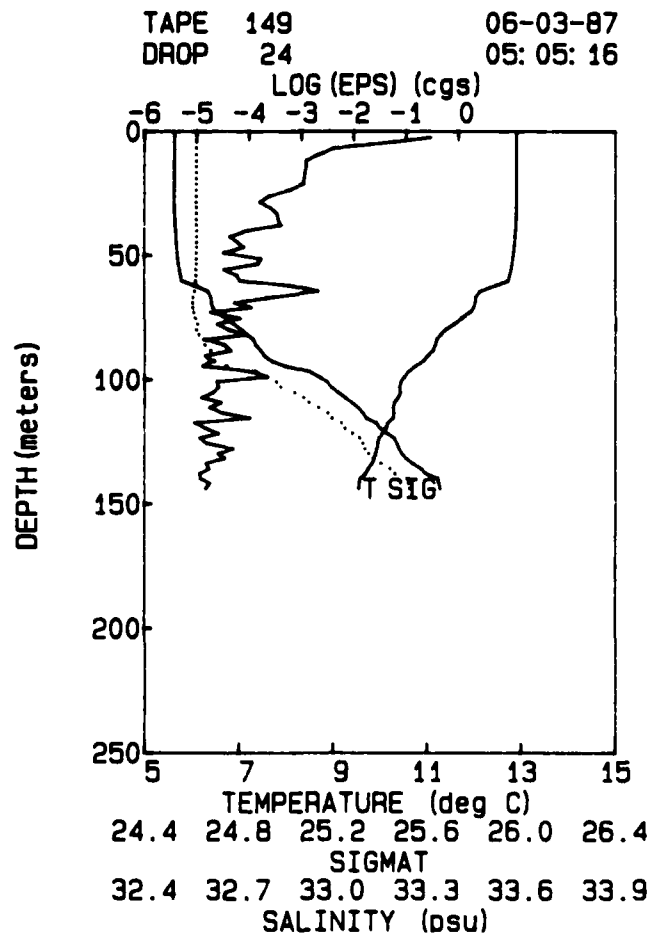
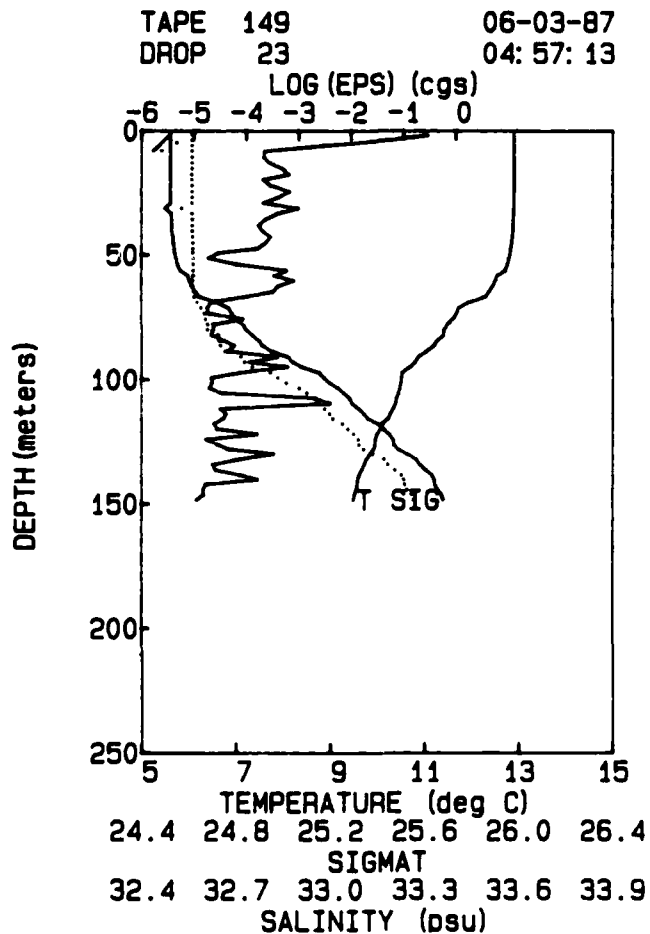
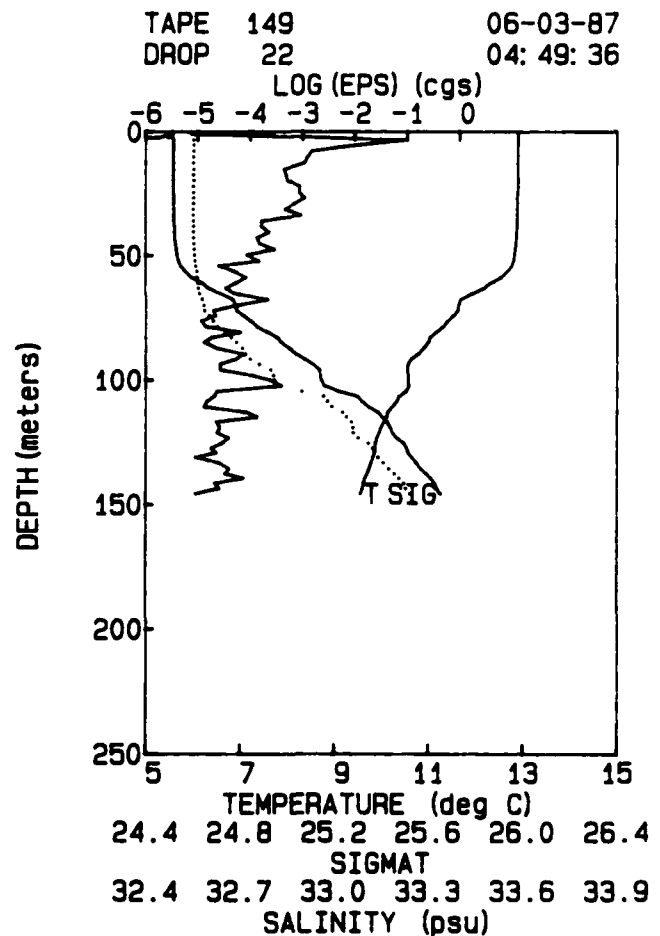
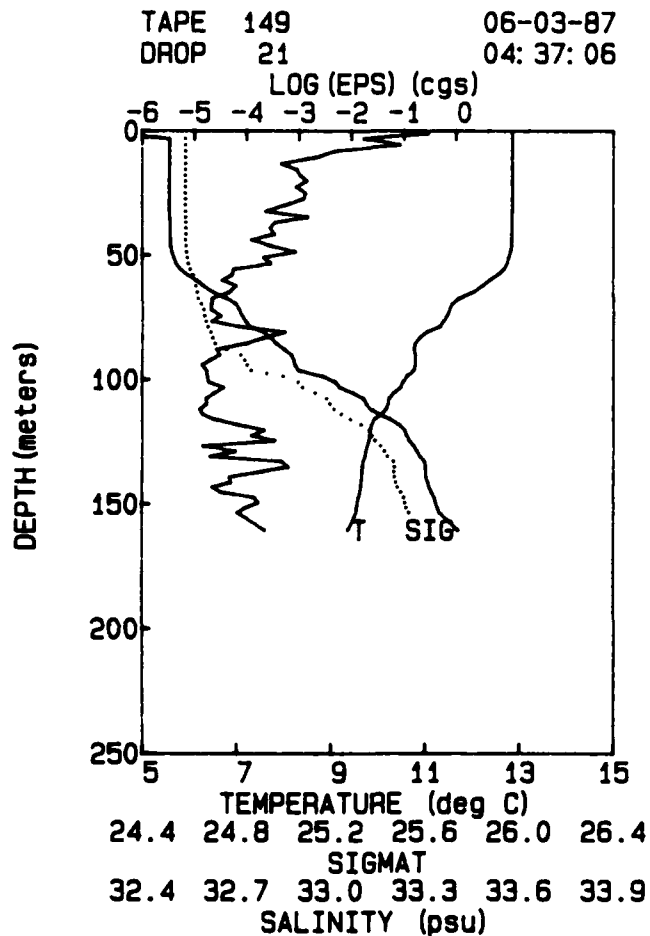
TAPE 149 06-03-87
DROP 15 03: 54: 29

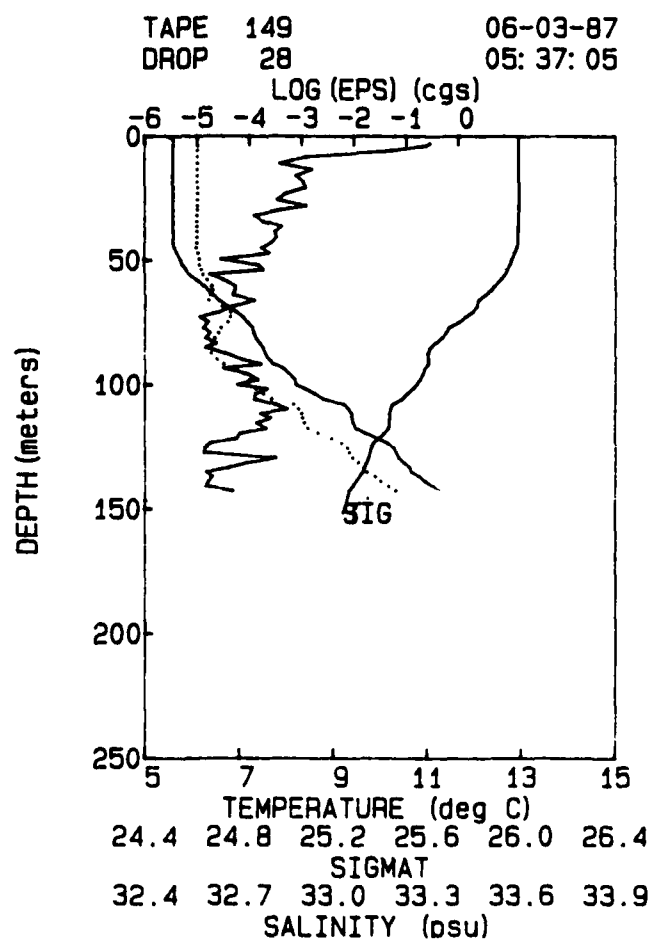
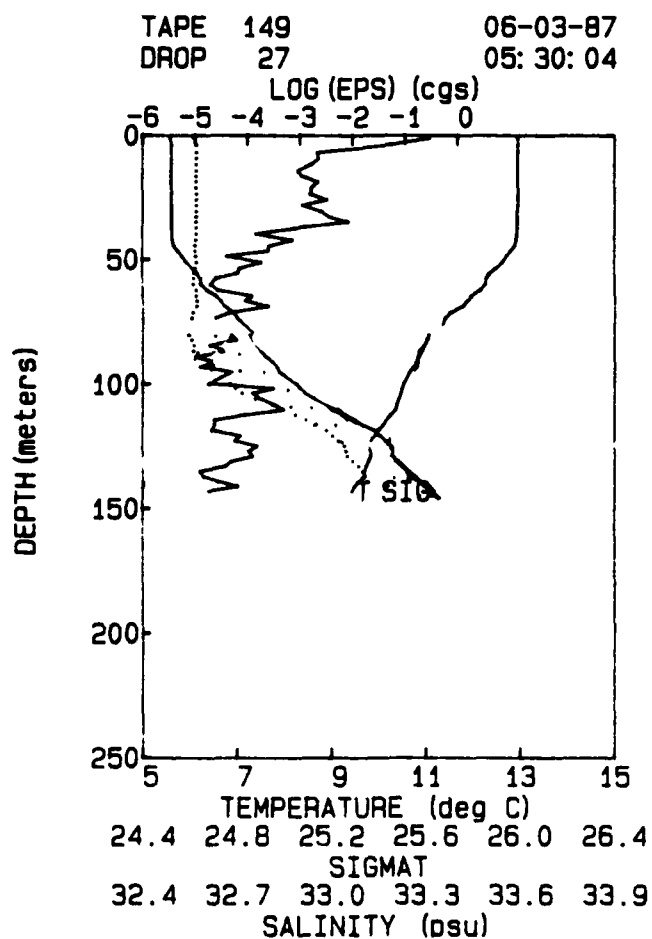
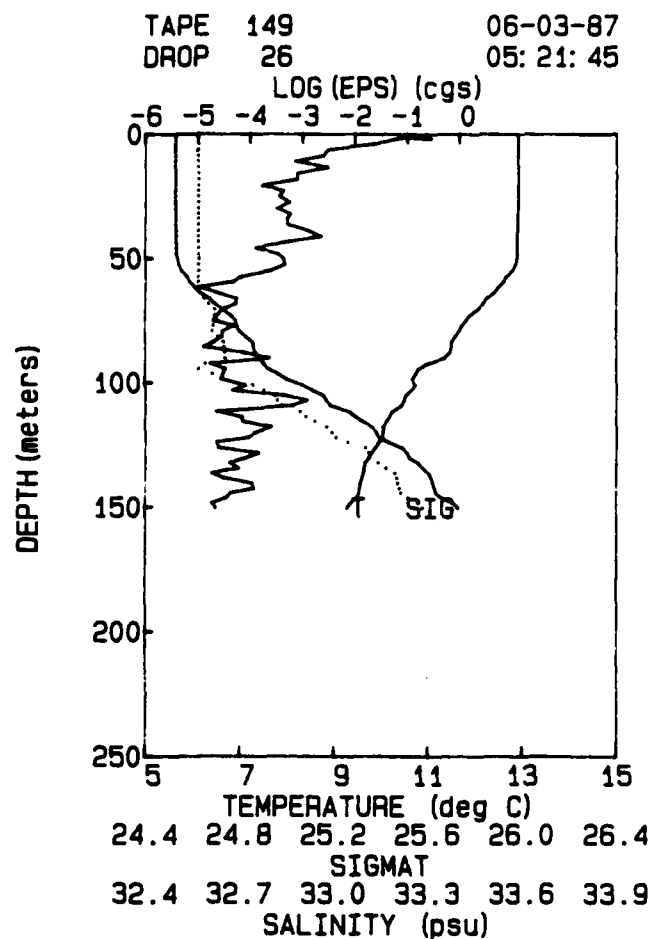
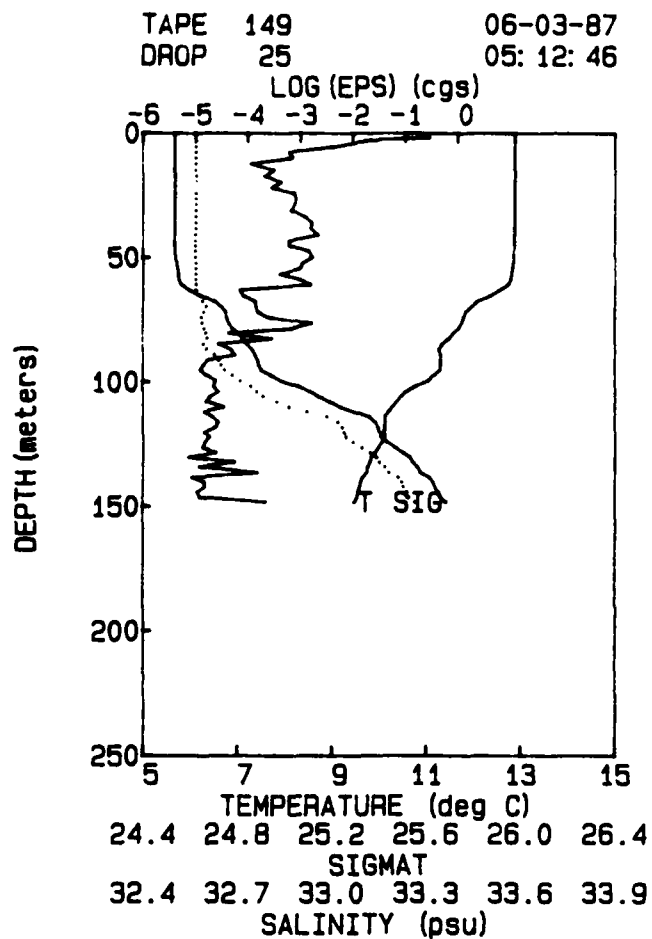


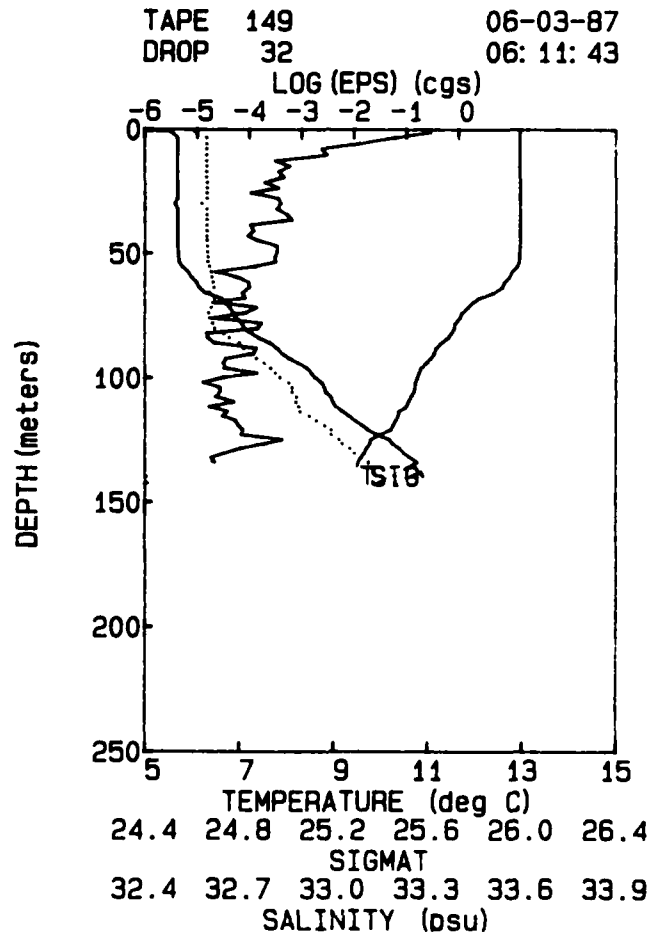
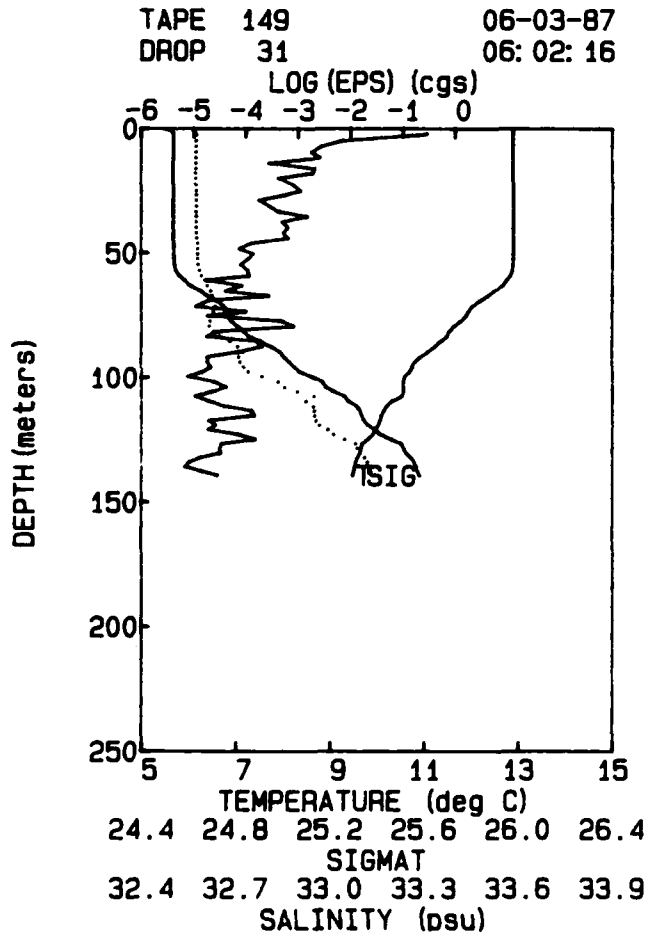
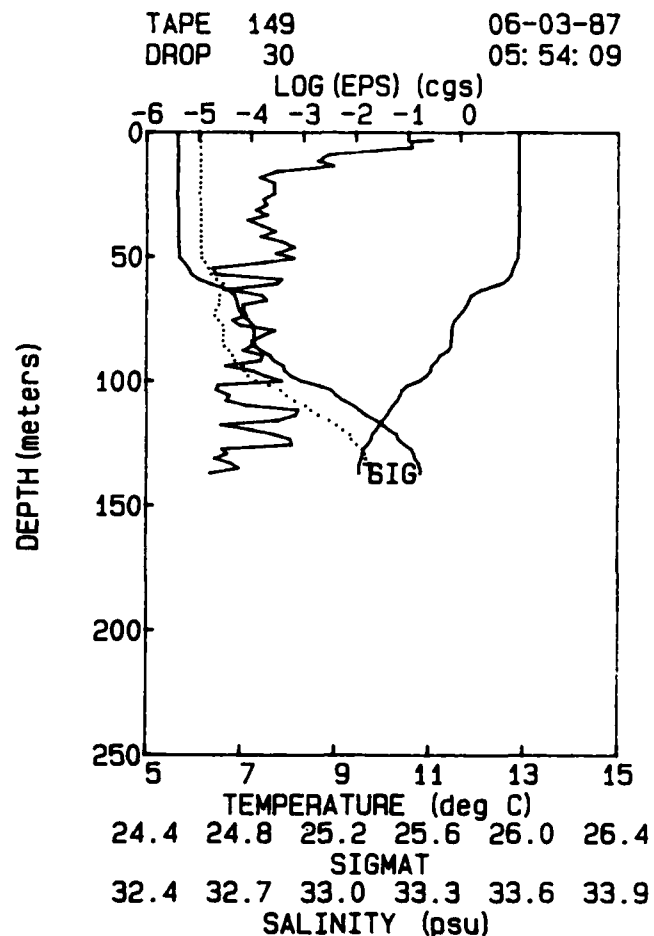
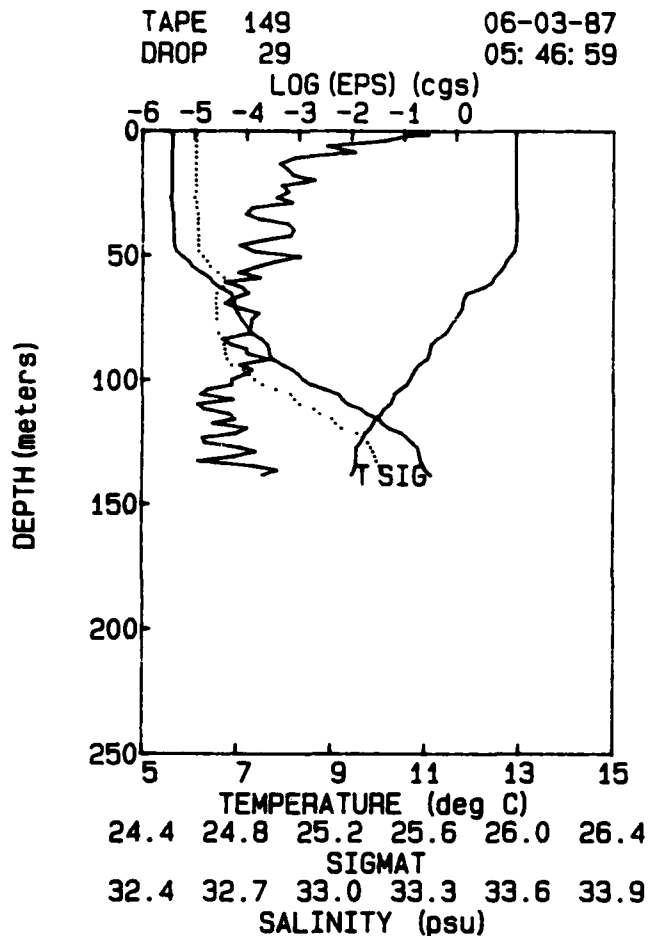
TAPE 149 06-03-87
DROP 16 04: 01: 28

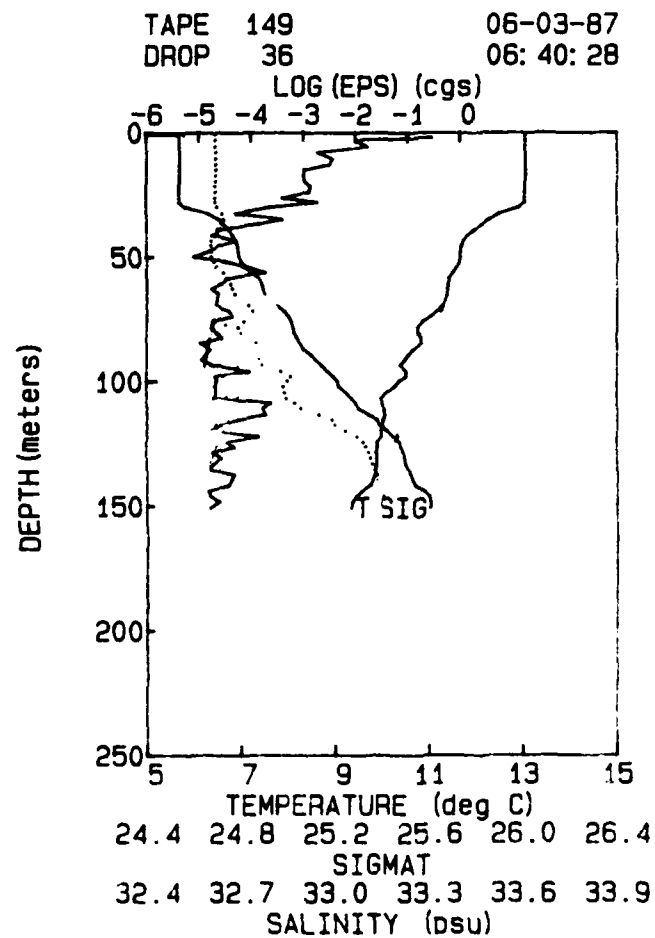
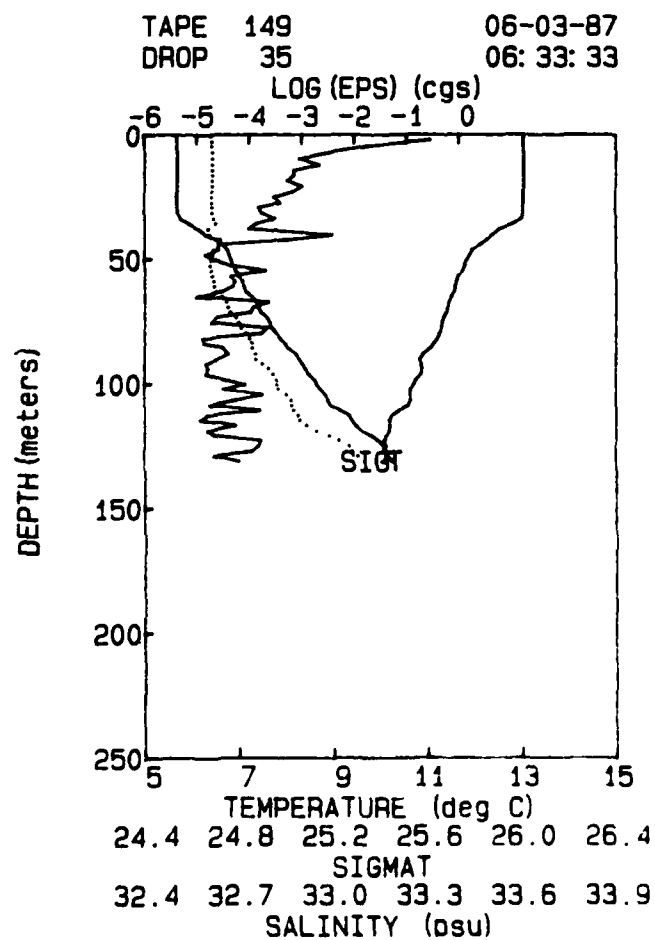
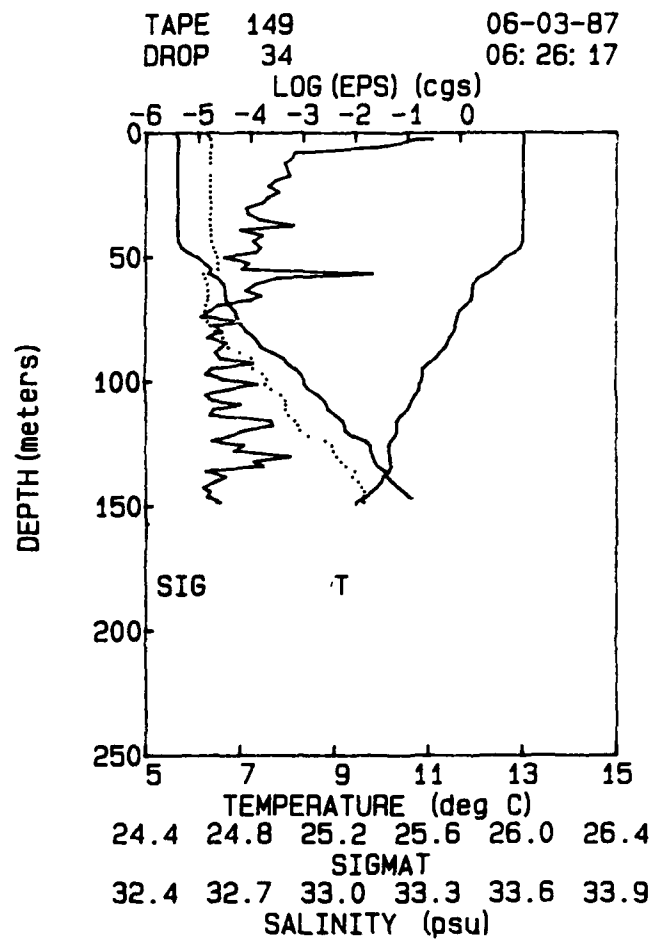
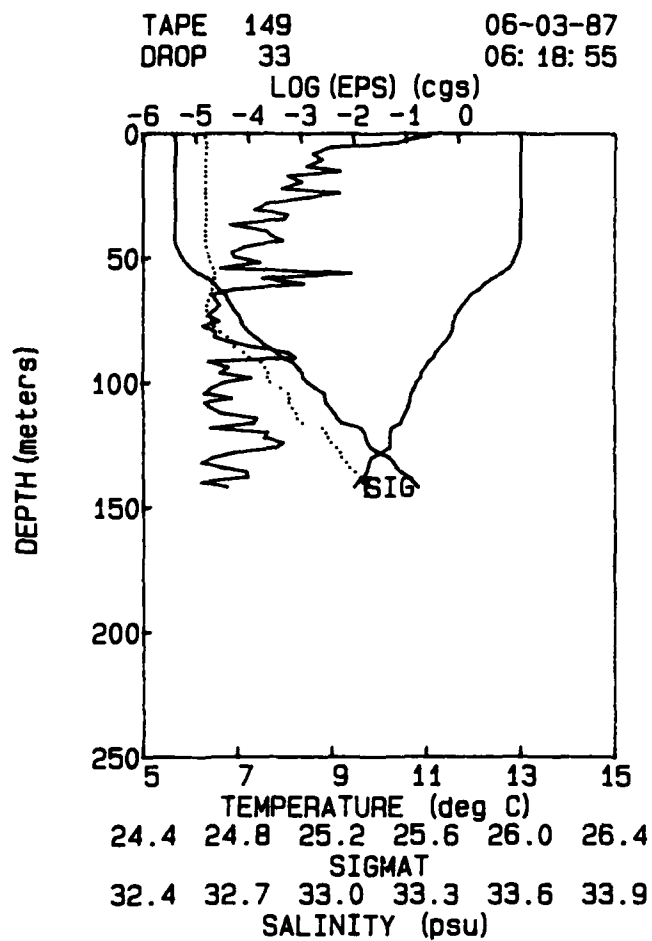


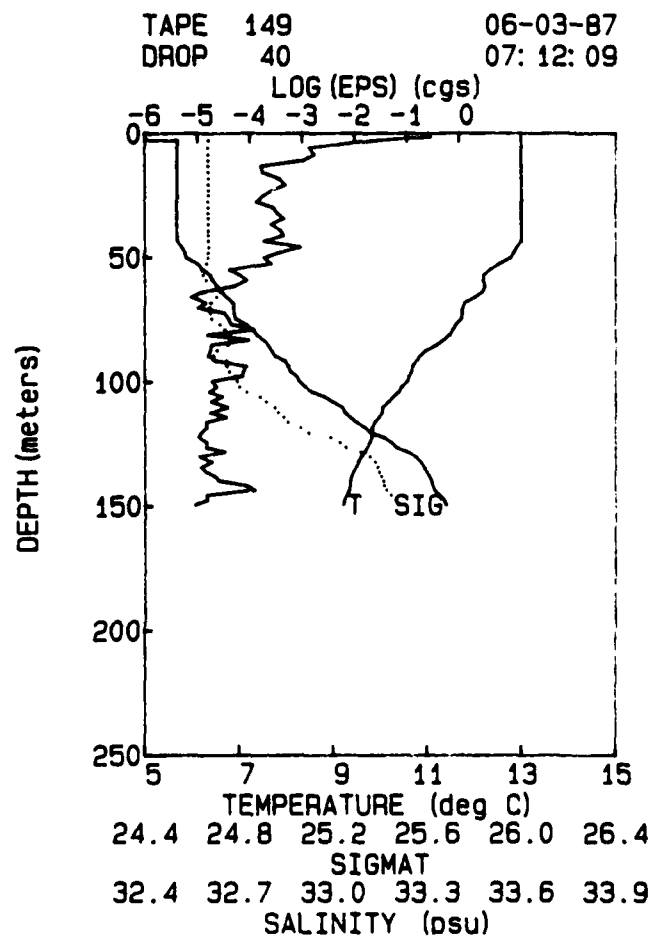
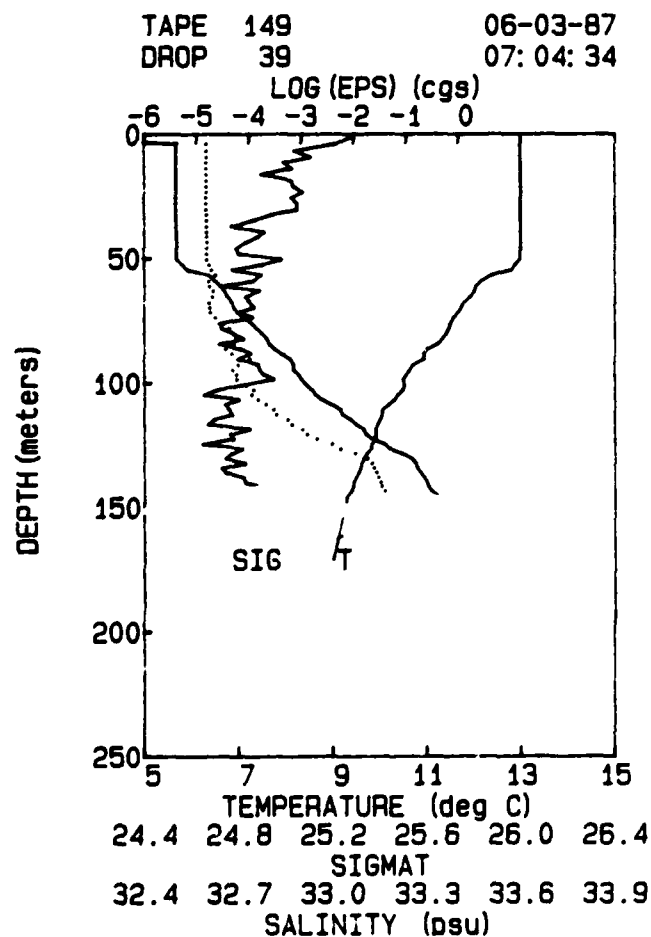
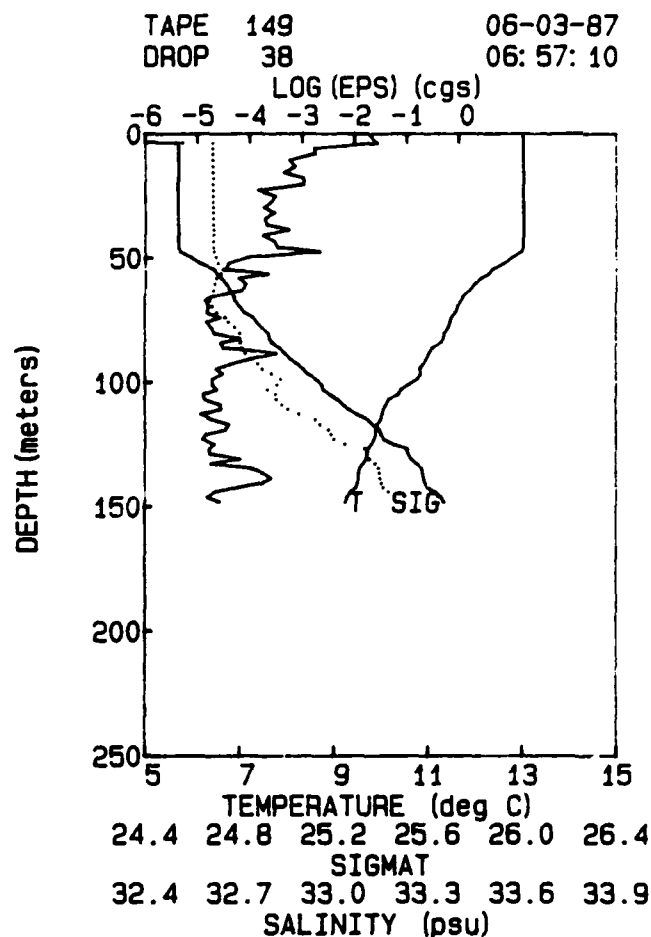
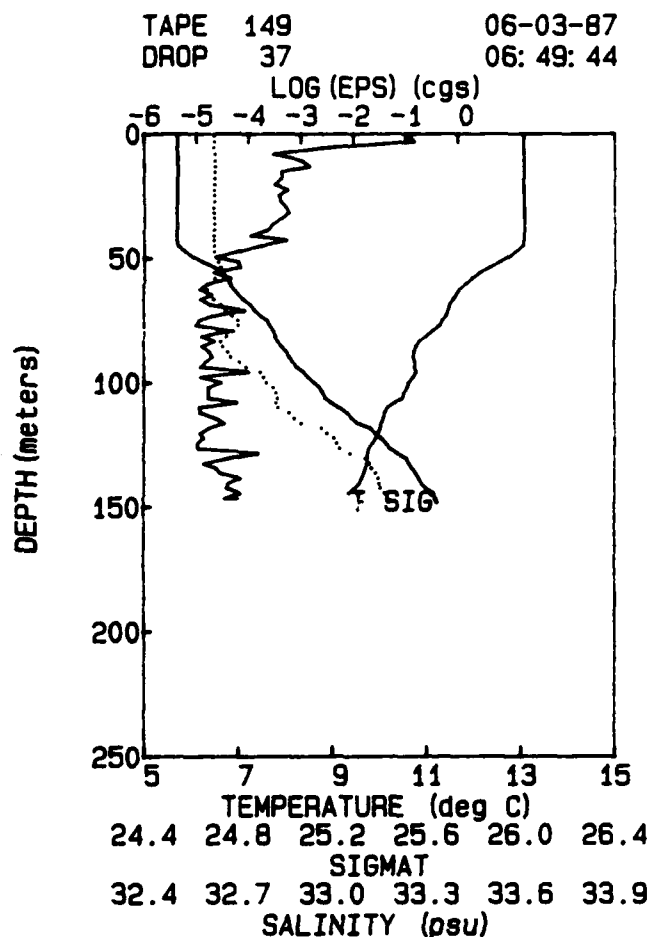


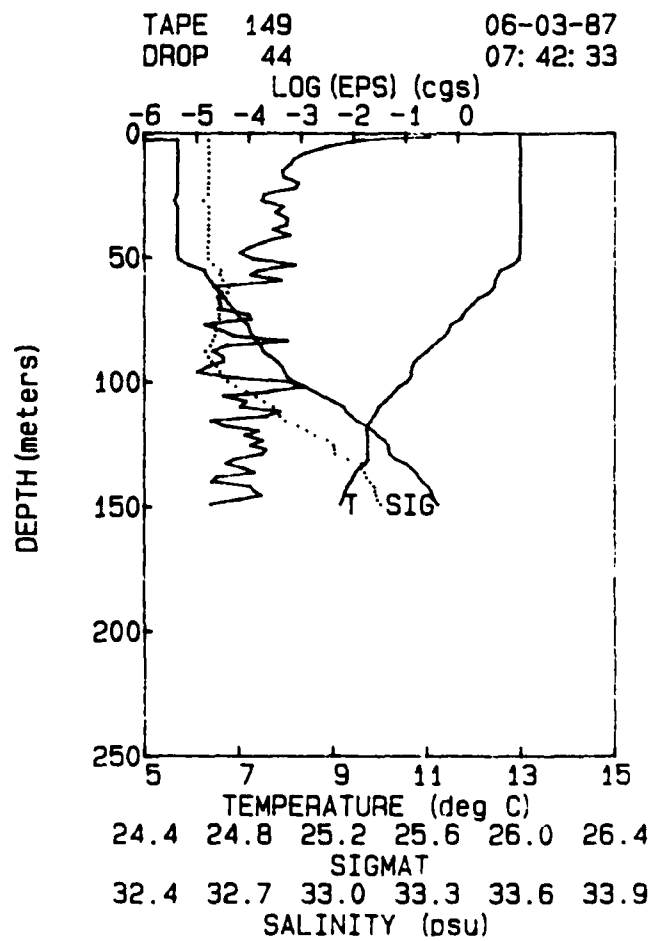
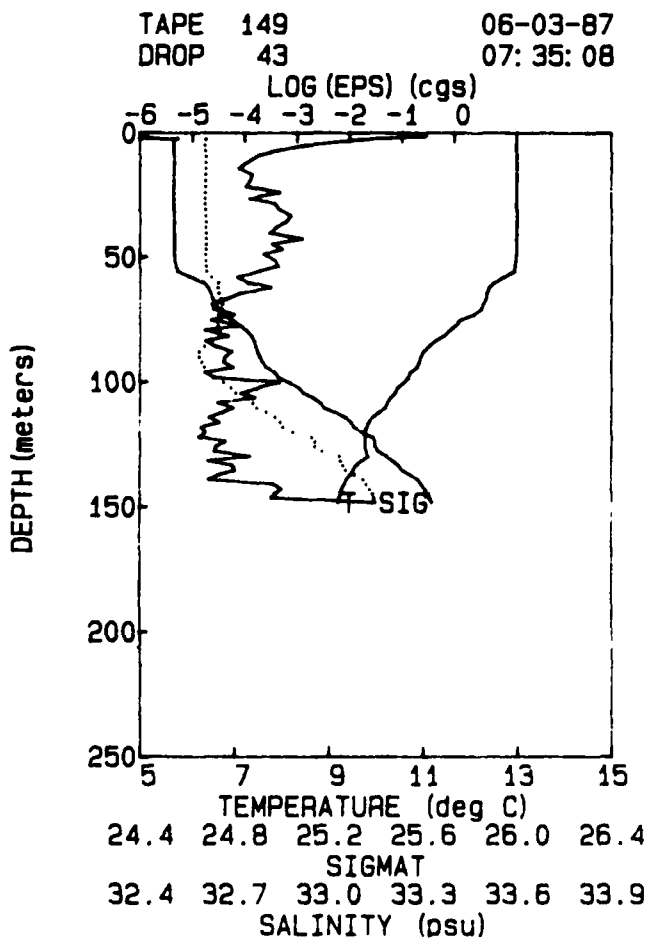
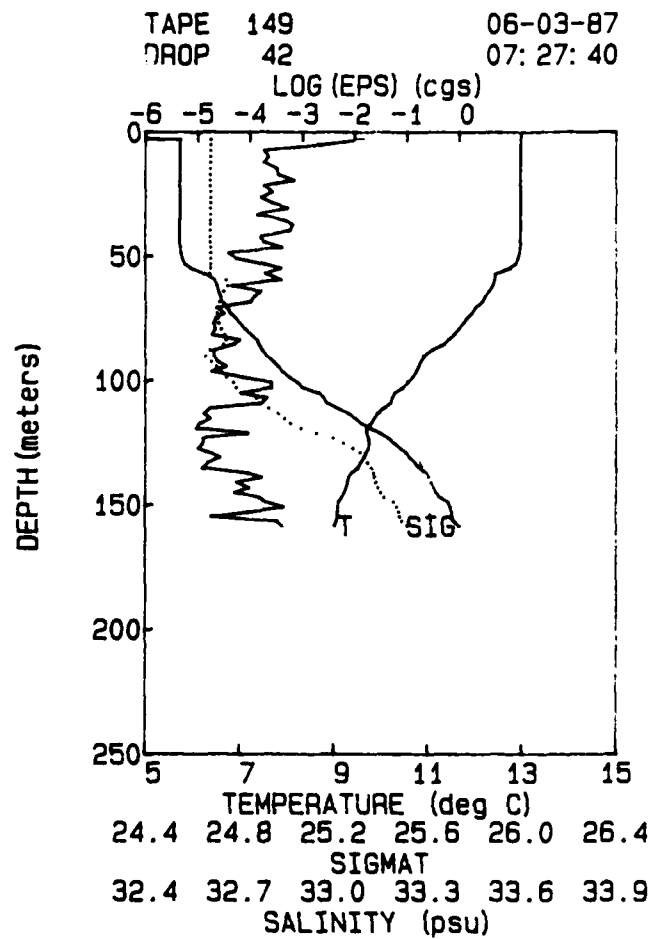
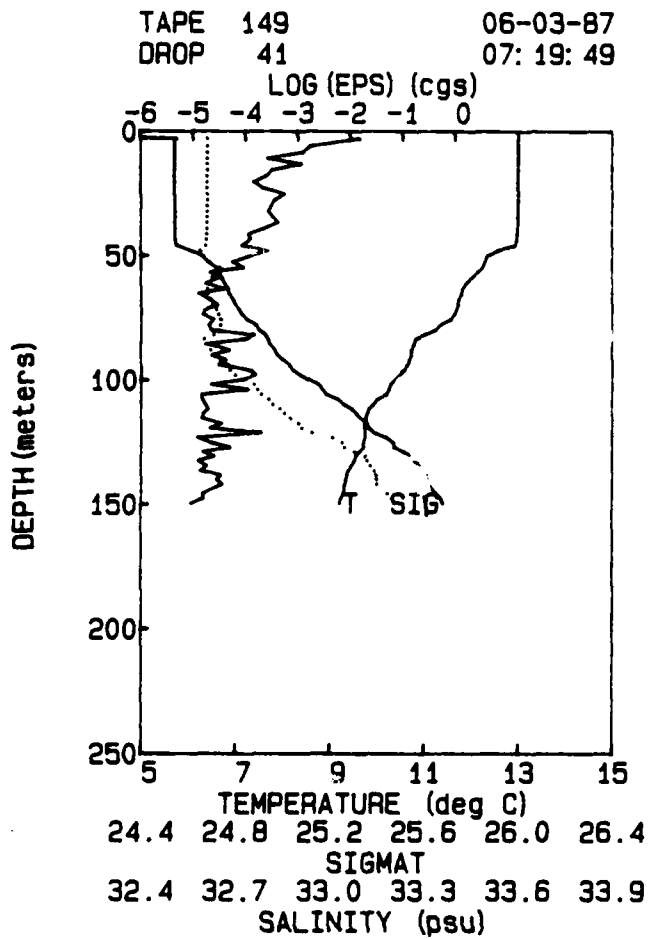




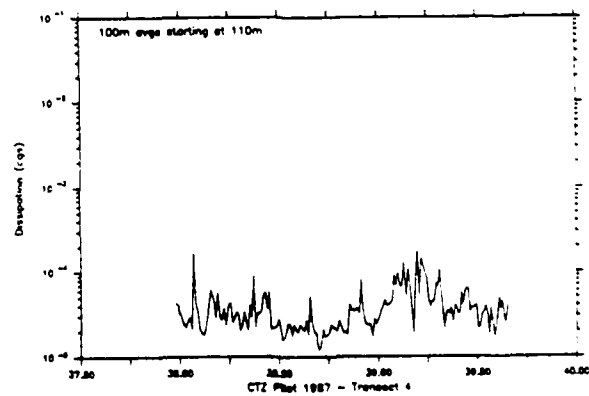
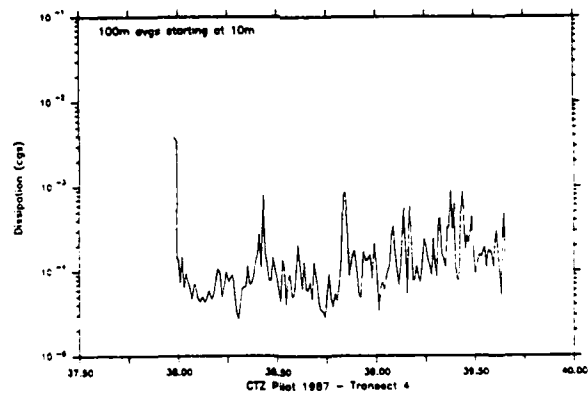
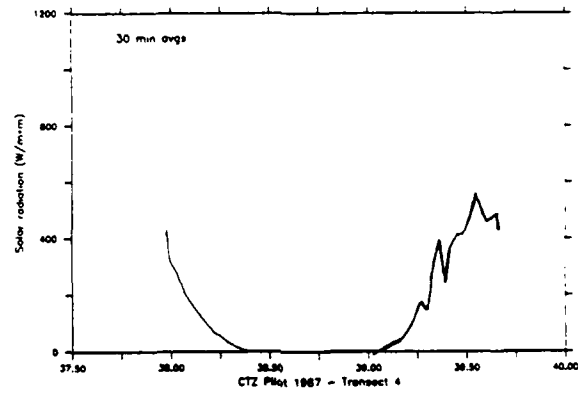
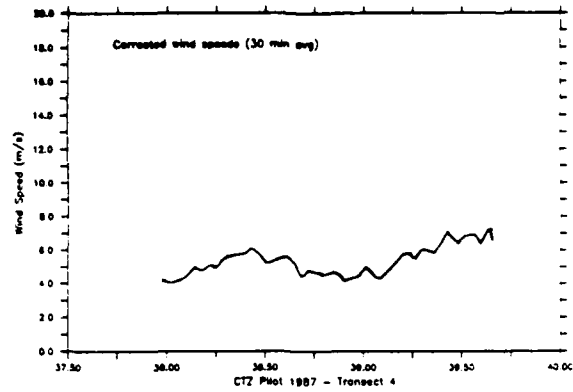


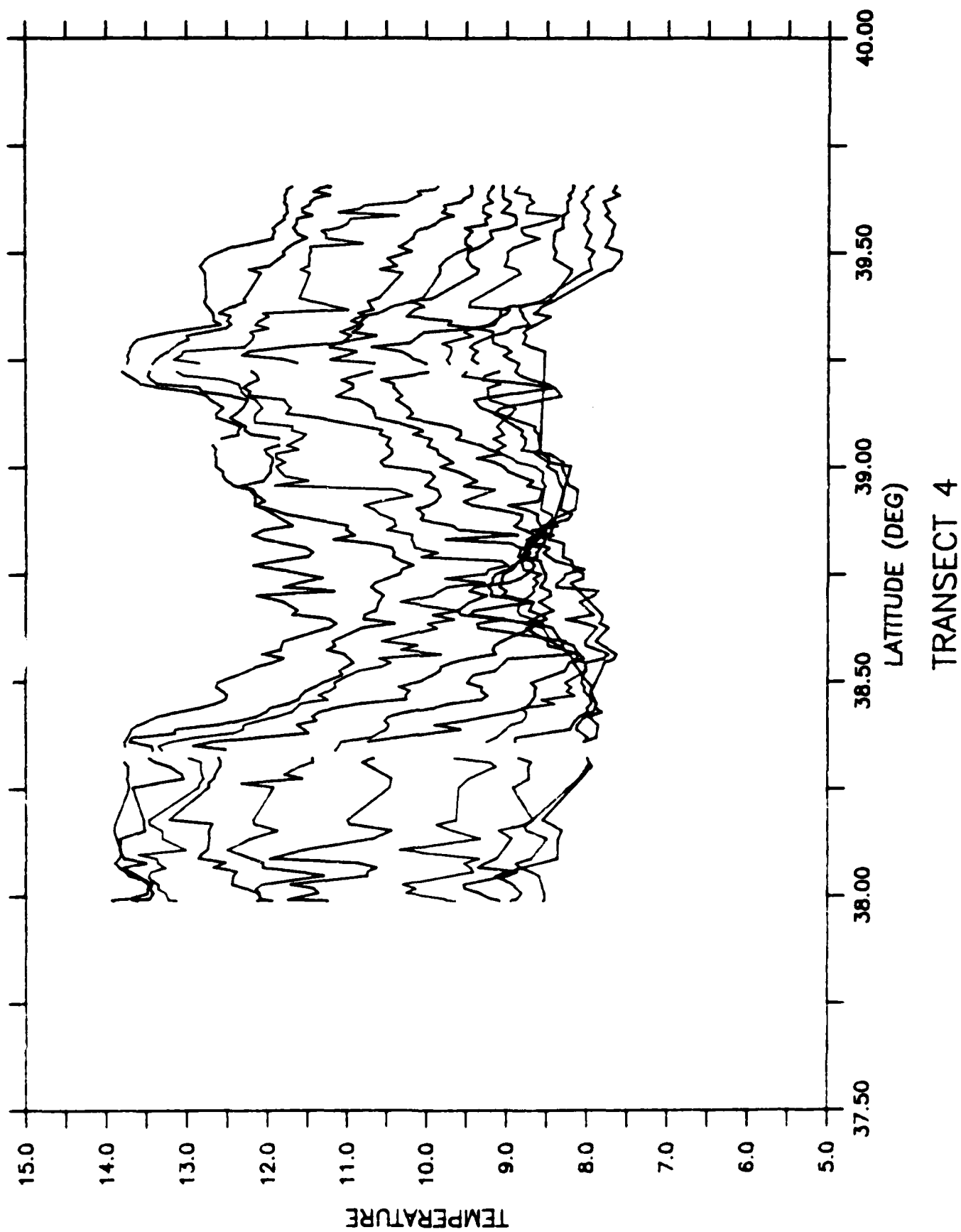


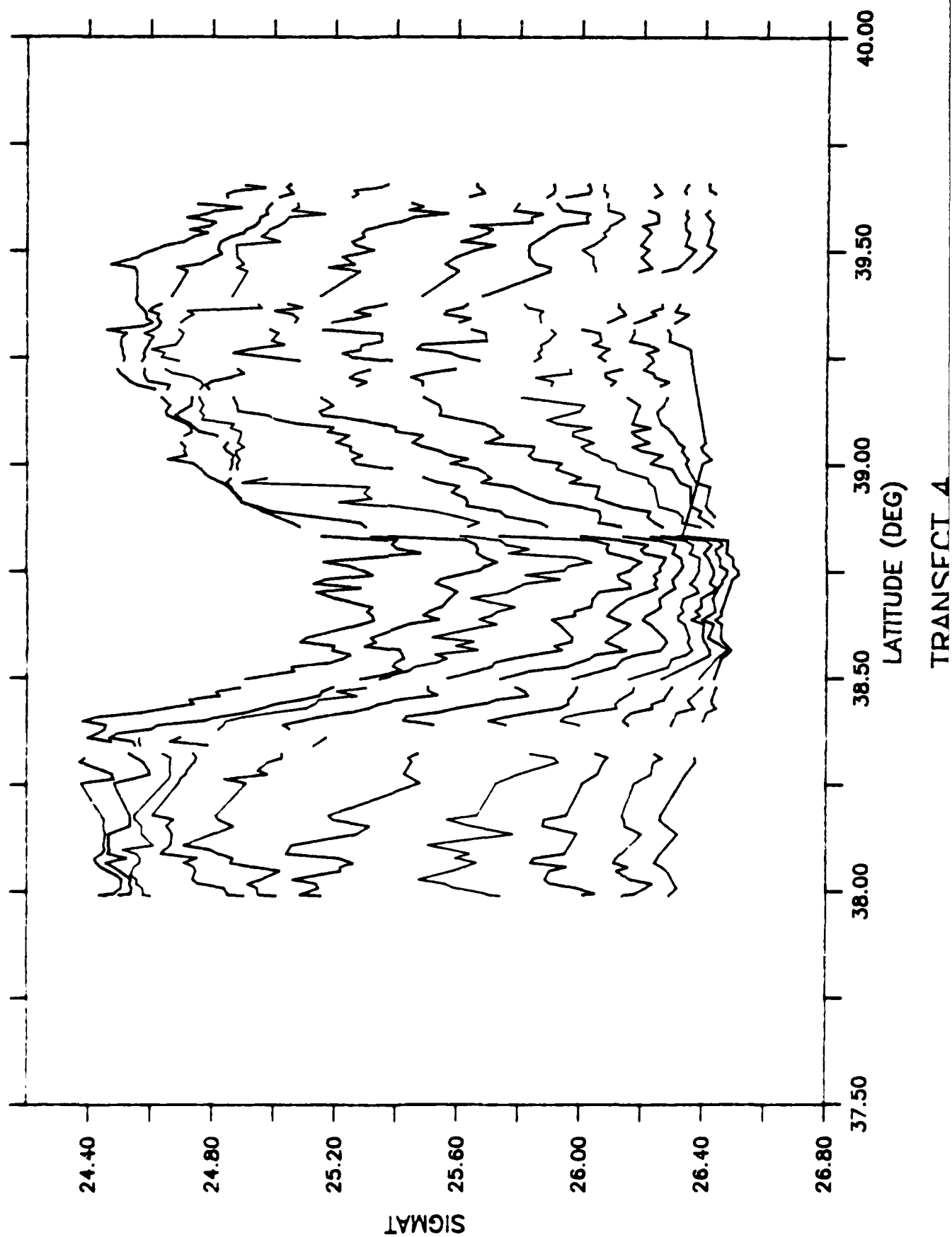


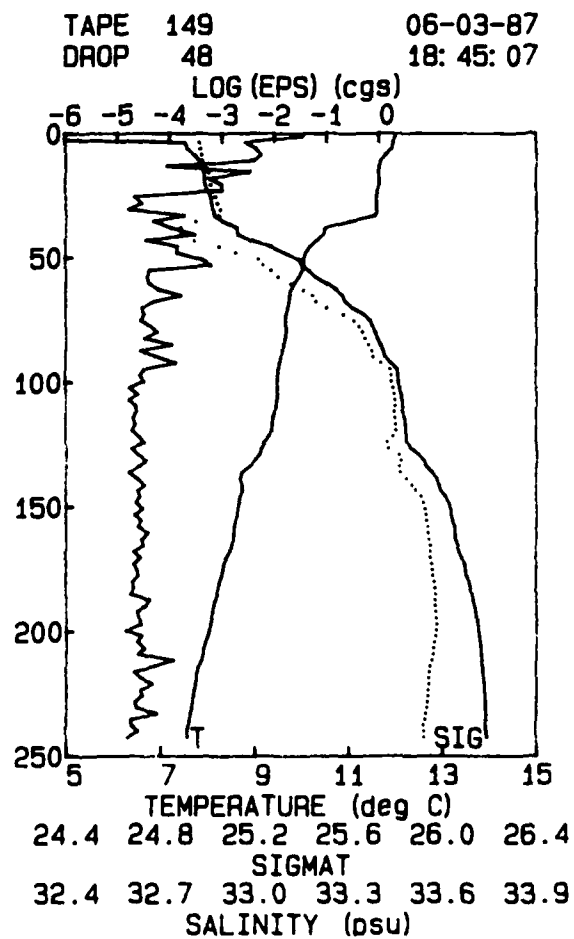
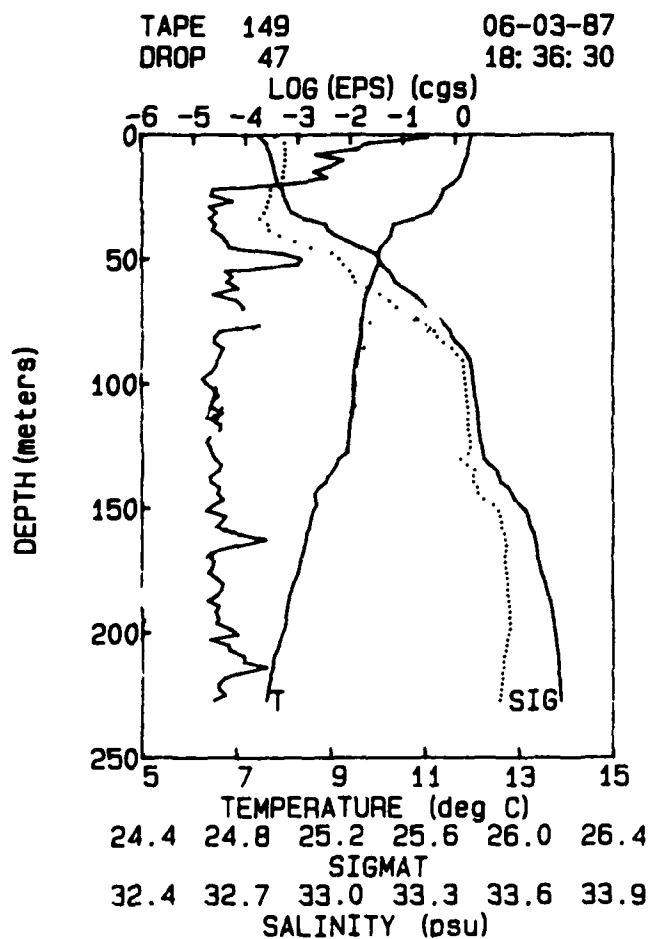
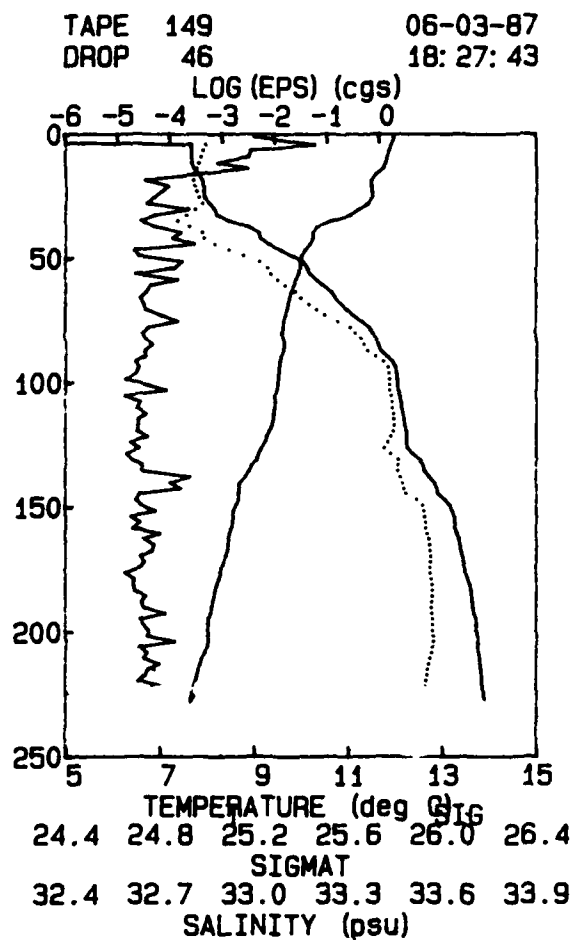
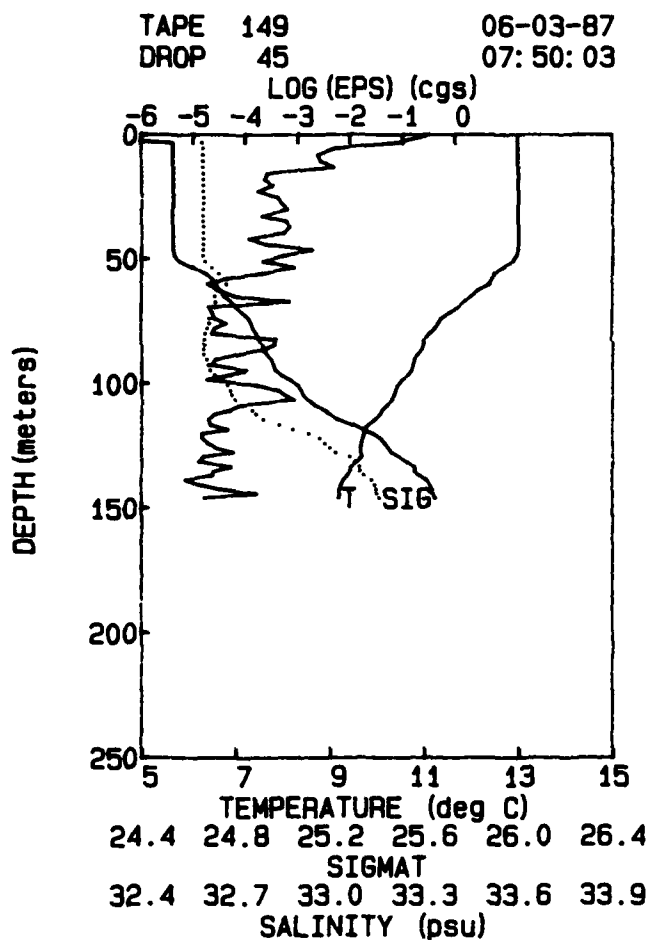


TRANSECT 4

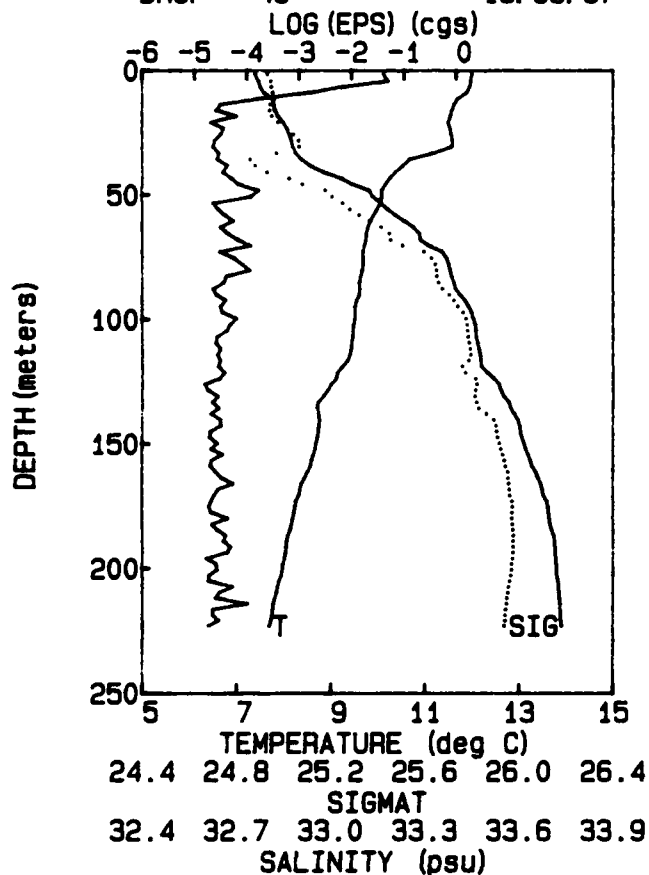




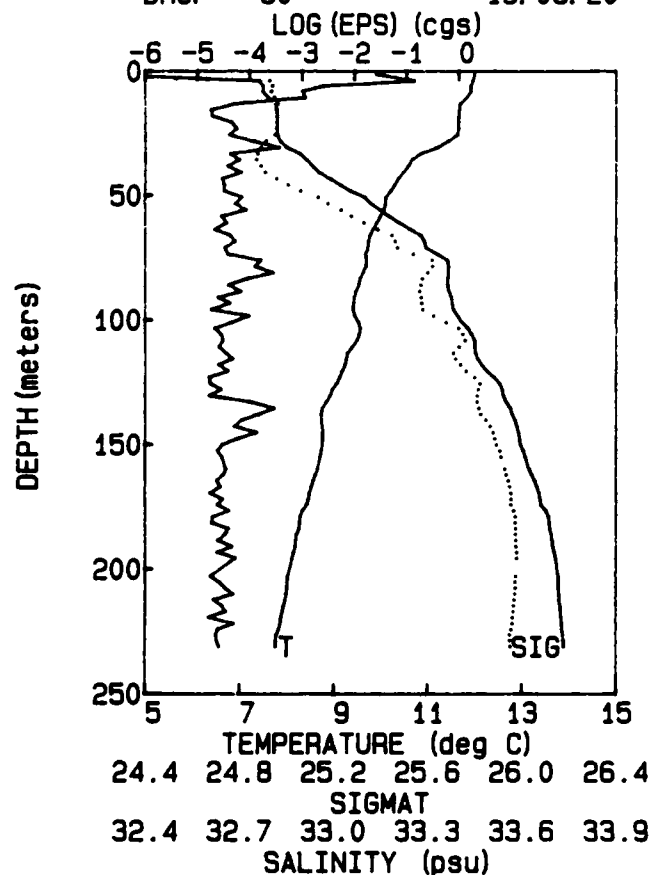




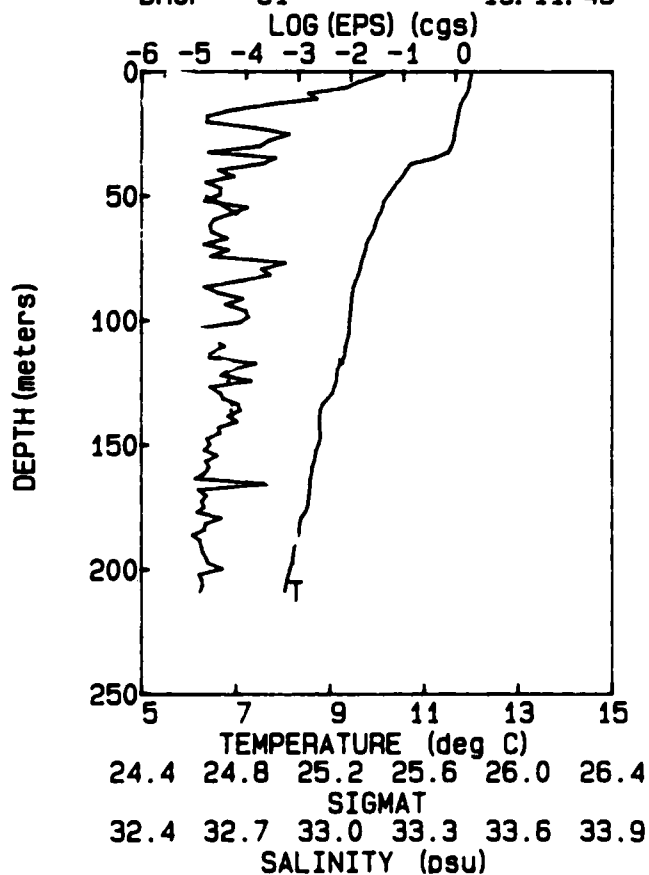
TAPE 149 06-03-87
DROP 49 18: 53: 57



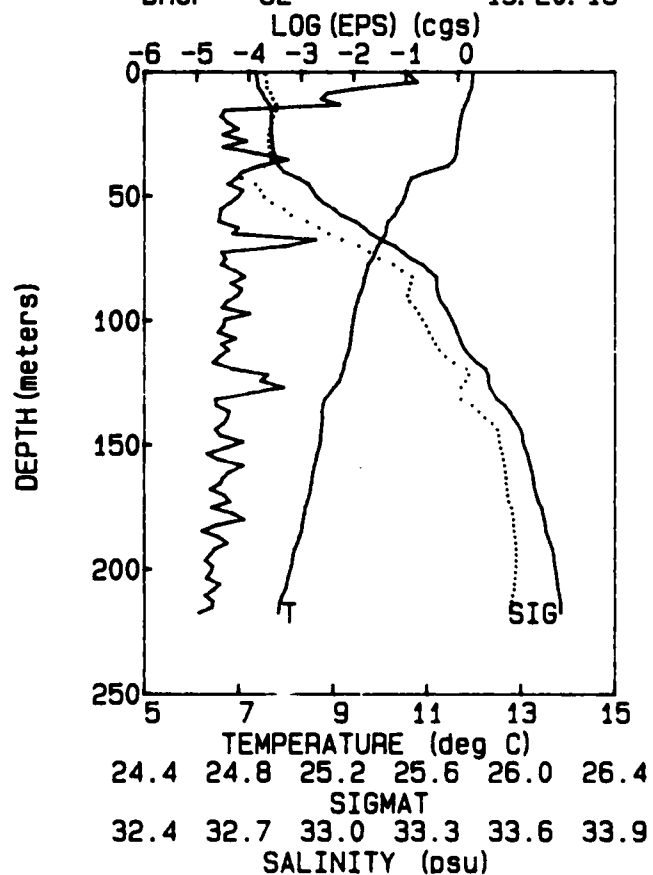
TAPE 149 06-03-87
DROP 50 19: 03: 20



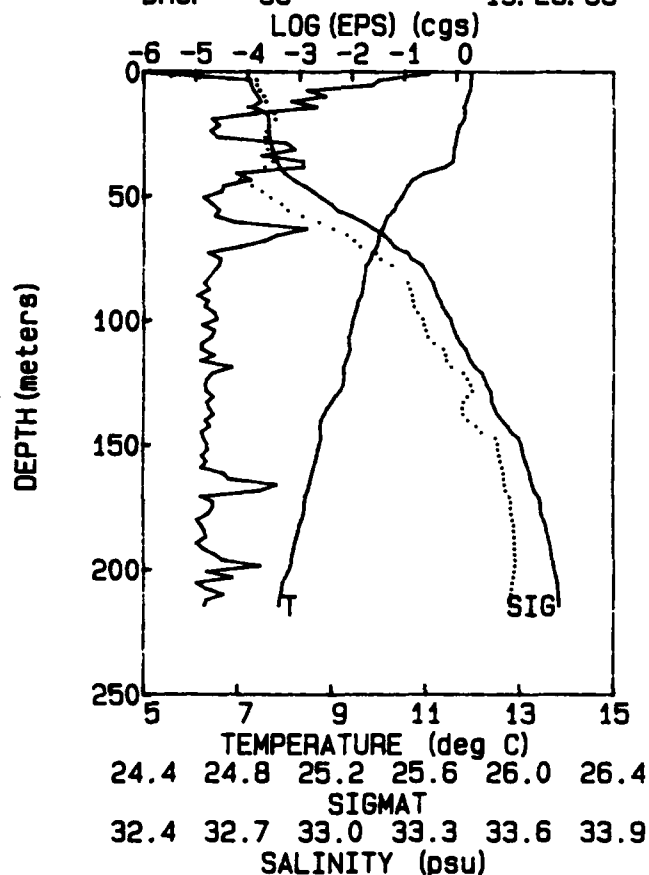
TAPE 149 06-03-87
DROP 51 19: 11: 49



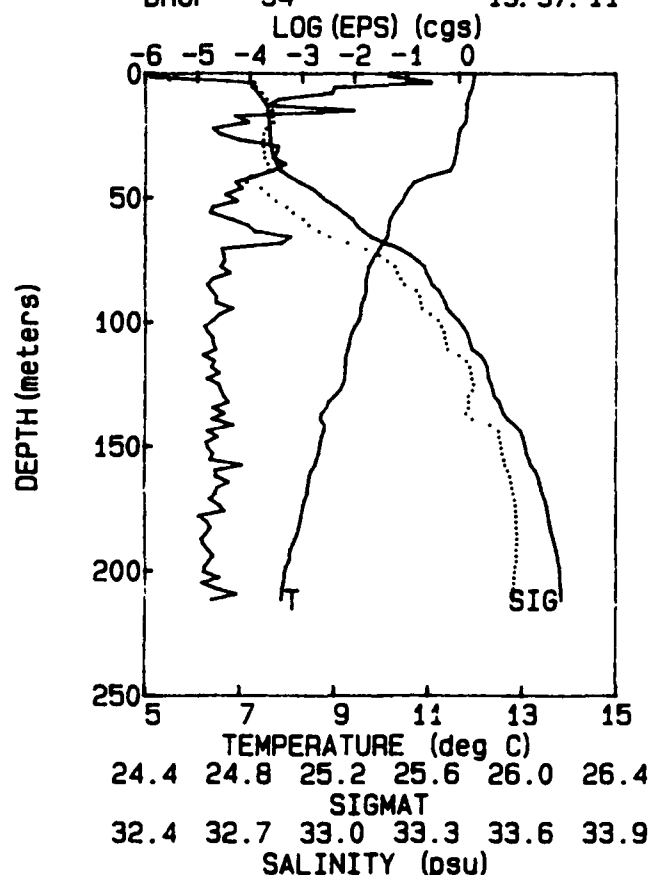
TAPE 149 06-03-87
DROP 52 19: 20: 13



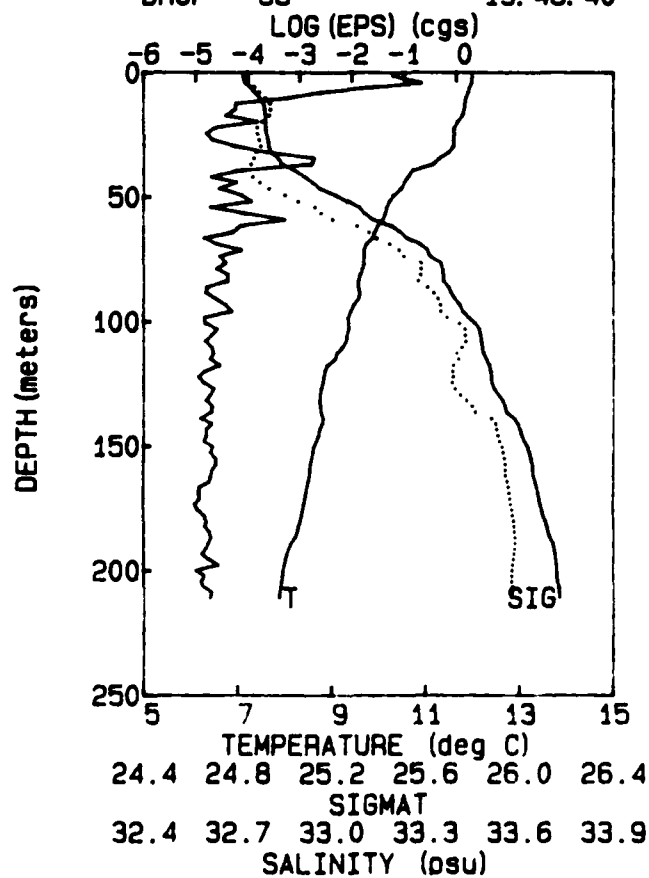
TAPE 149 06-03-87
DROP 53 19:28:53



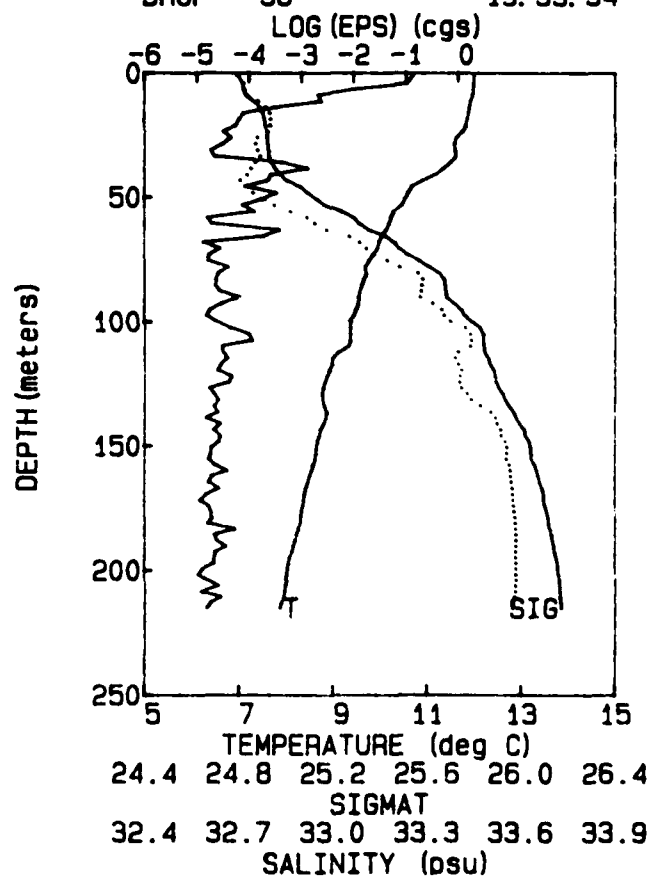
TAPE 149 06-03-87
DROP 54 19:37:11



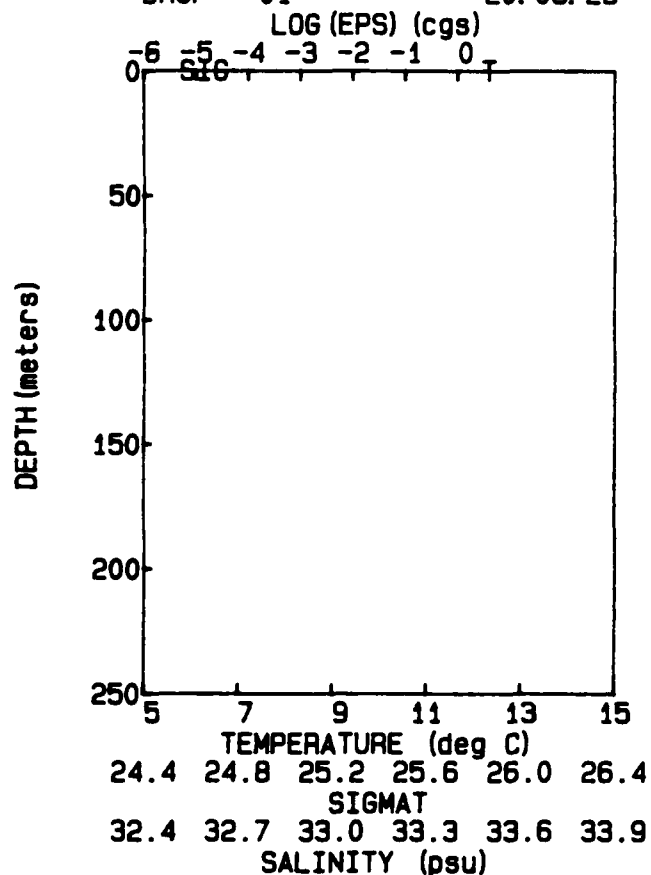
TAPE 149 06-03-87
DROP 55 19:45:40



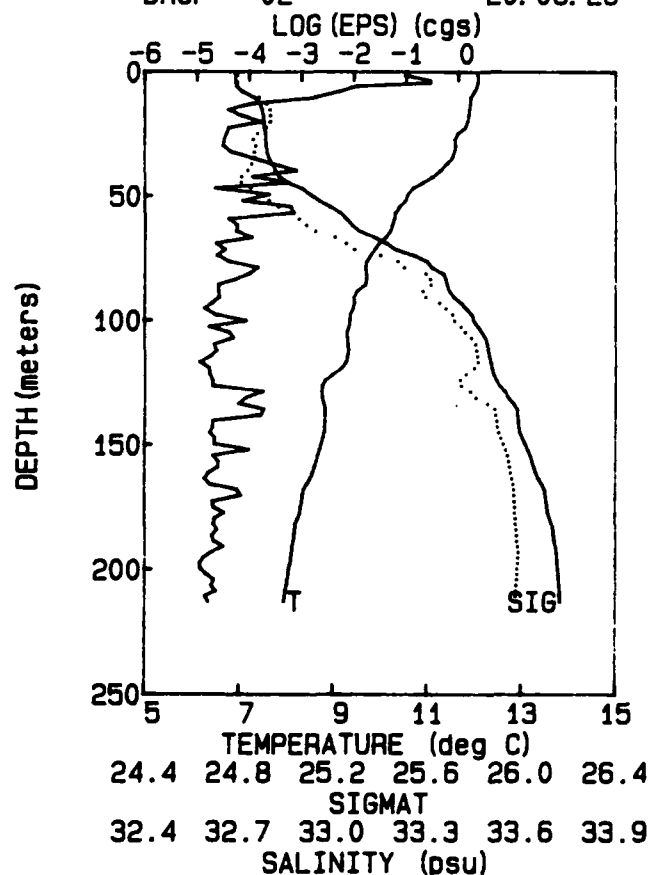
TAPE 149 06-03-87
DROP 56 19:53:54



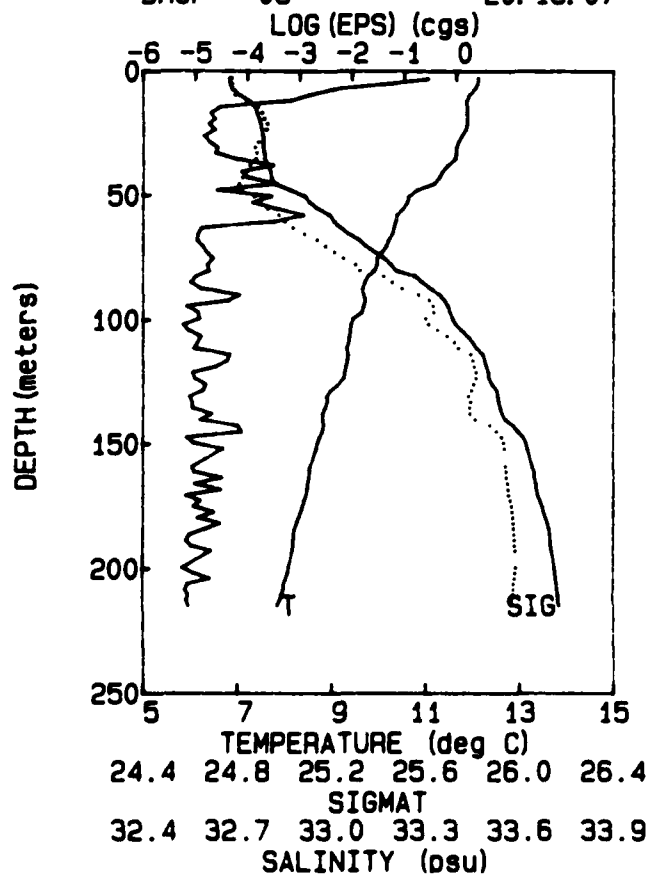
TAPE 150 06-03-87
DROP 01 20:05:23



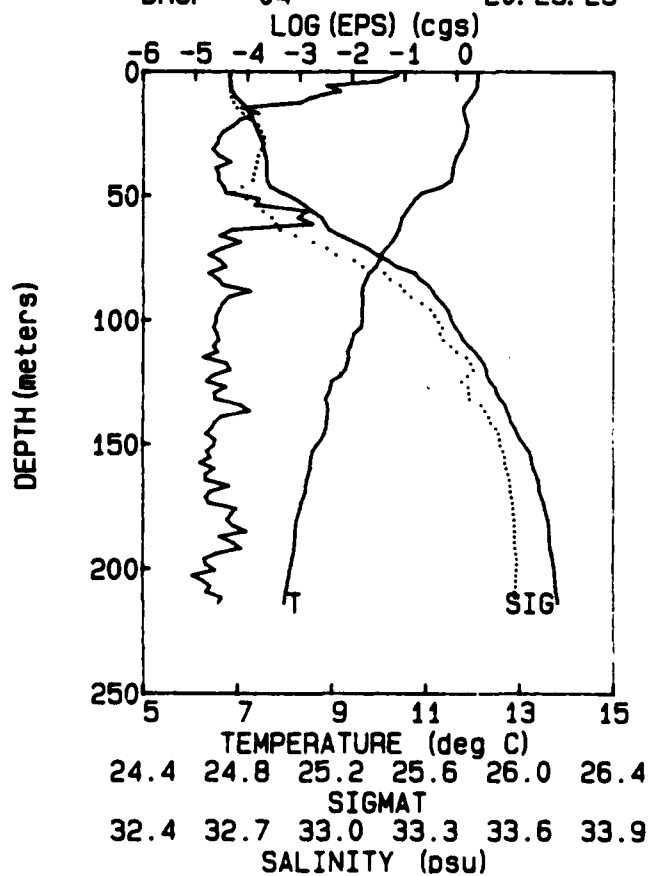
TAPE 150 06-03-87
DROP 02 20:06:26

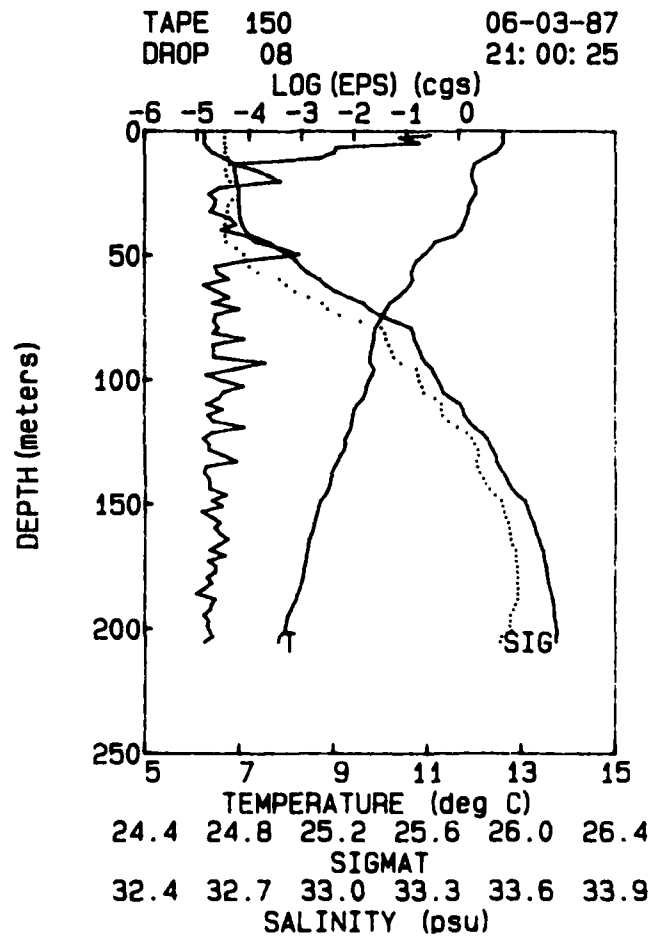
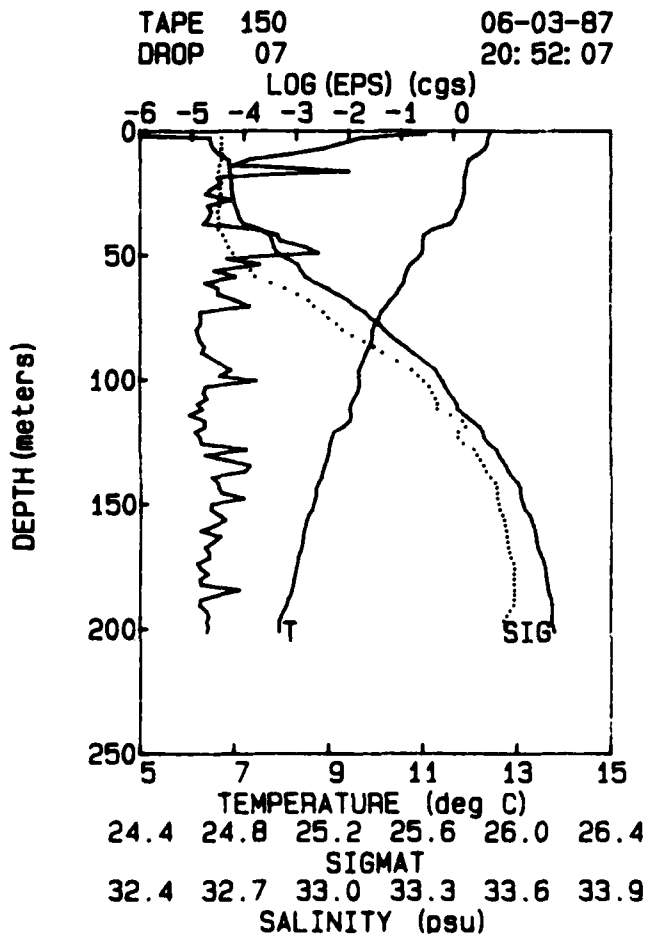
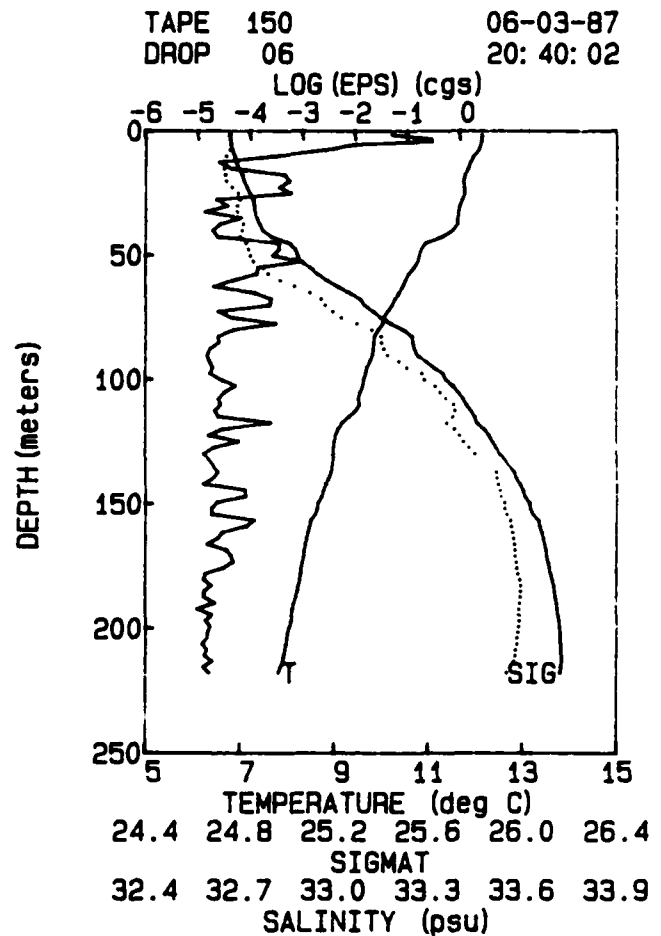
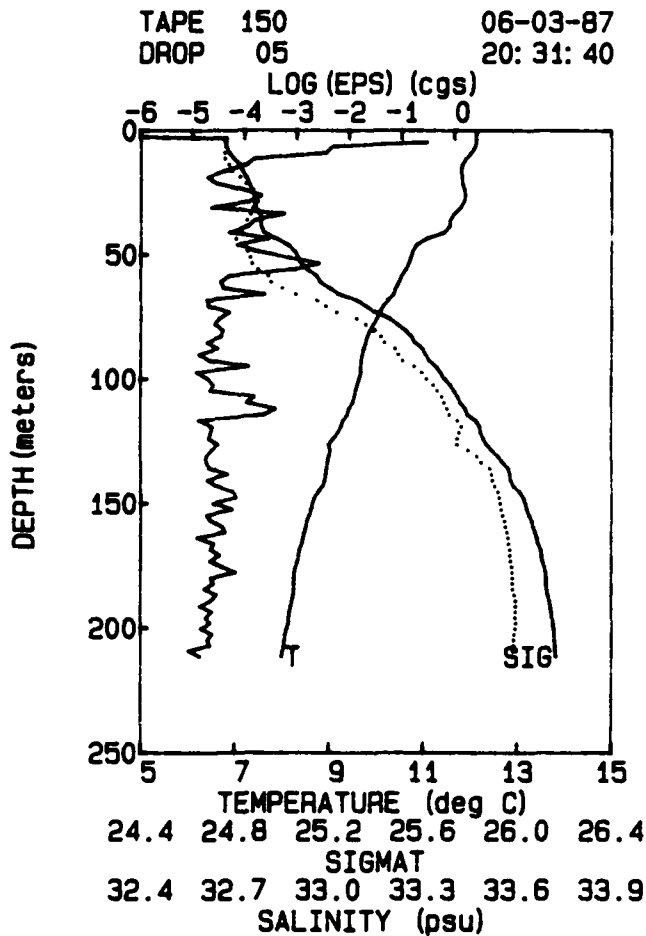


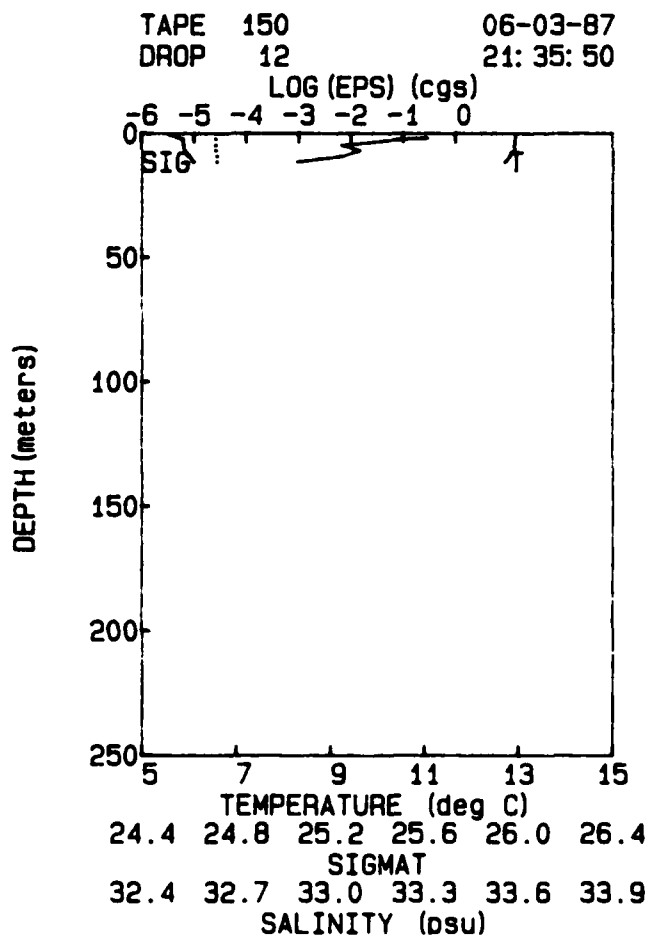
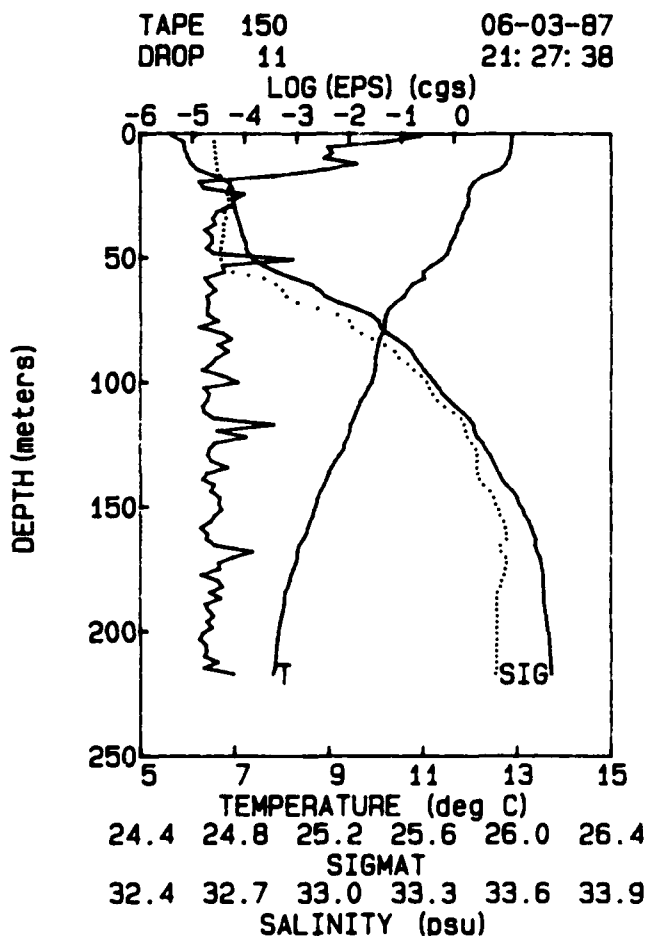
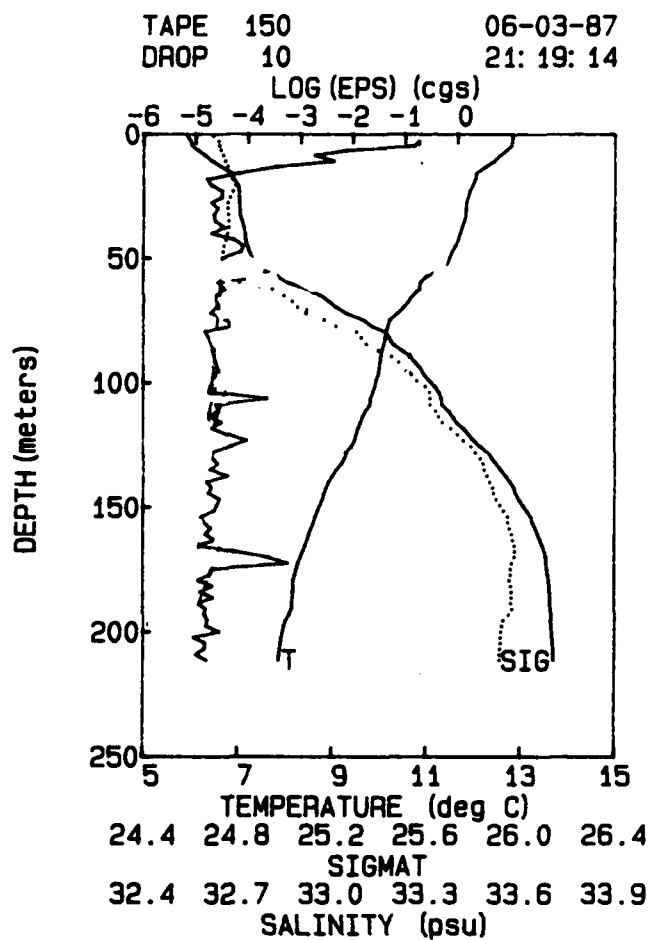
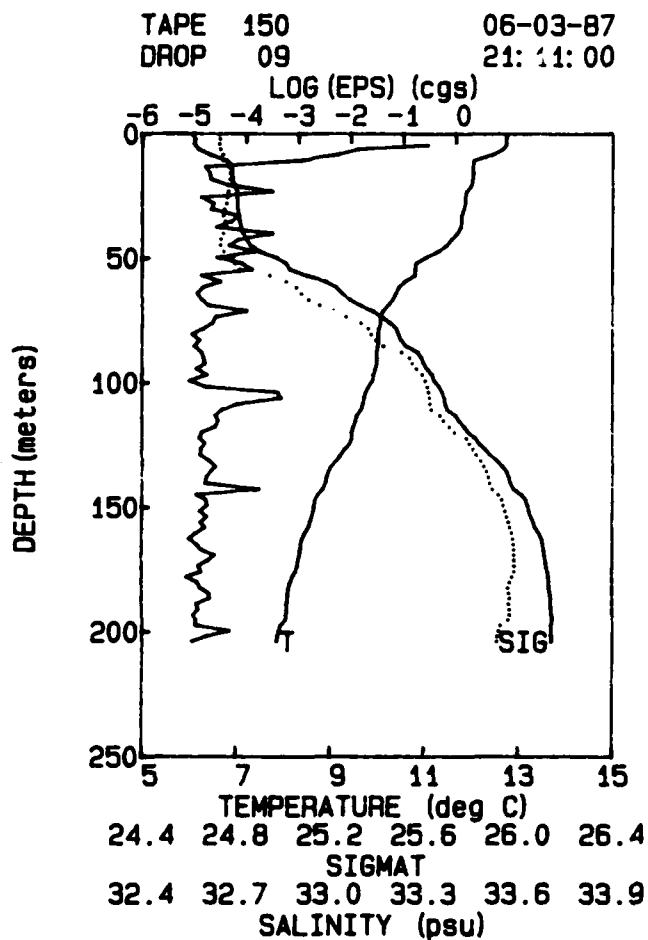
TAPE 150 06-03-87
DROP 03 20:15:07



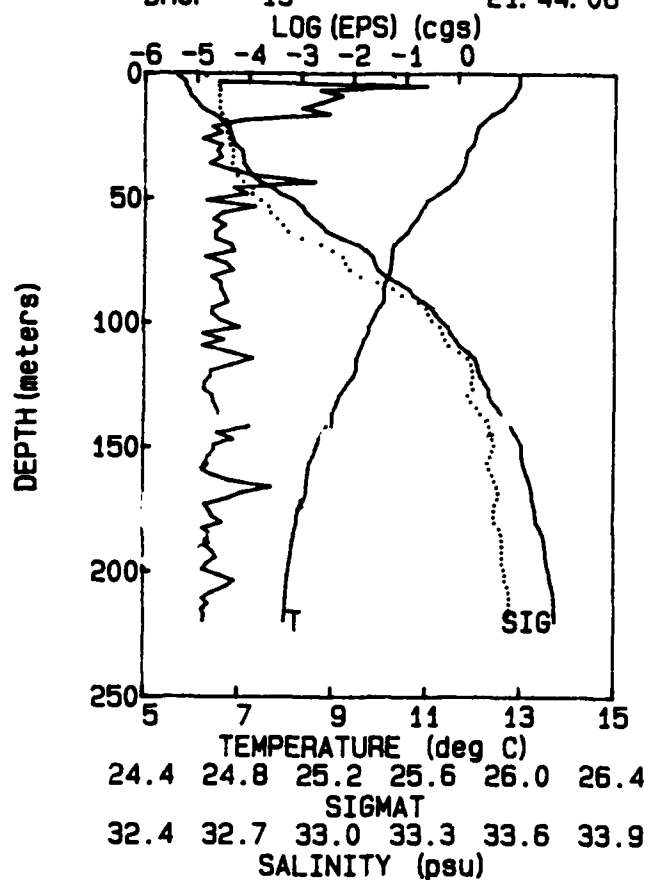
TAPE 150 06-03-87
DROP 04 20:23:23



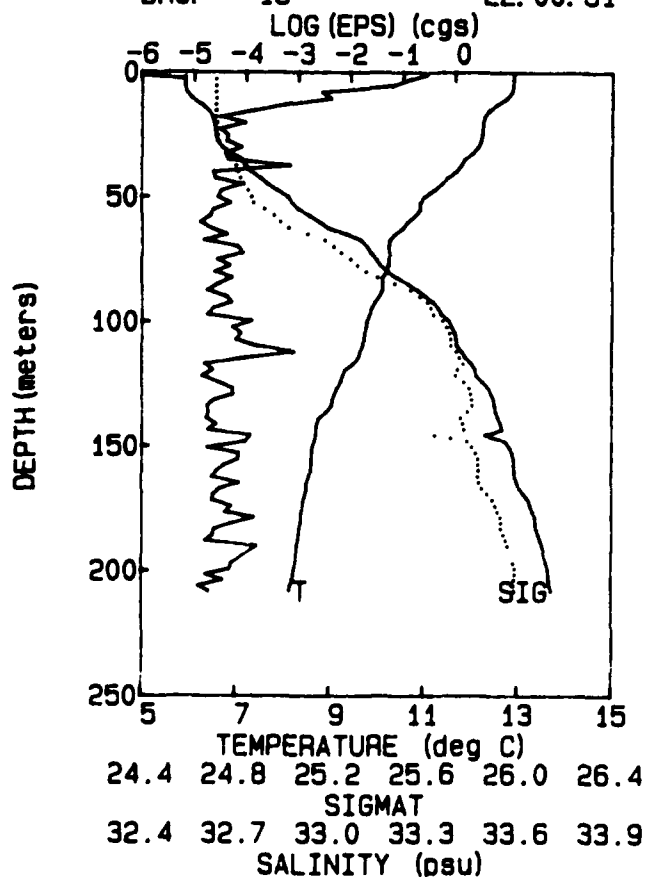




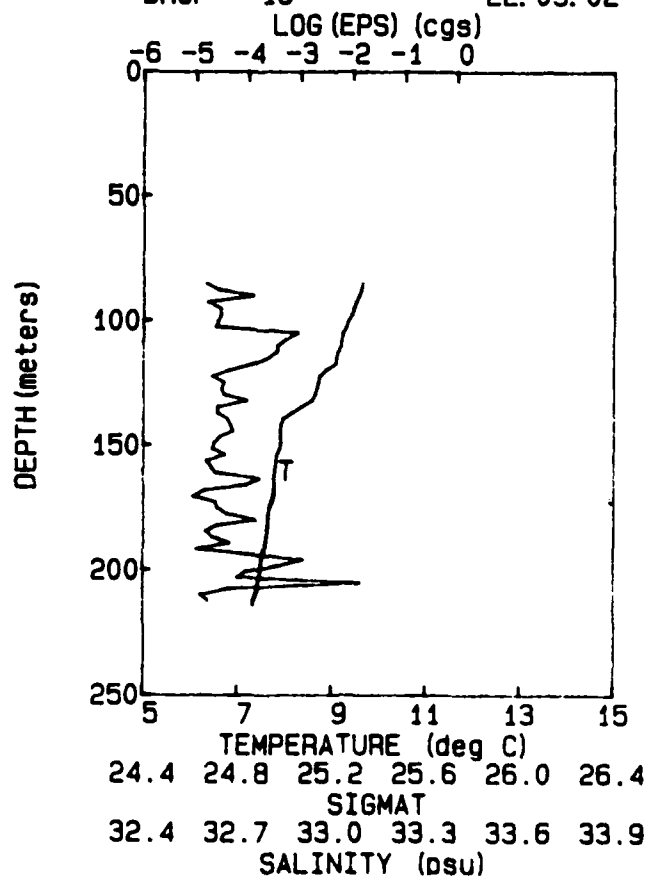
TAPE 150 06-03-87
 DROP 13 21: 44: 06



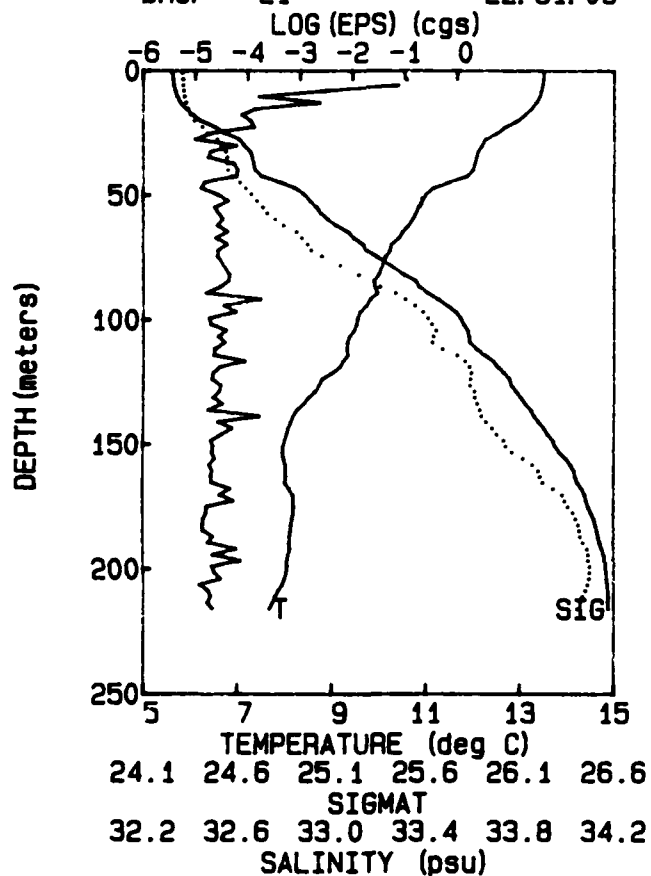
TAPE 150 06-03-87
 DROP 15 22: 00: 51



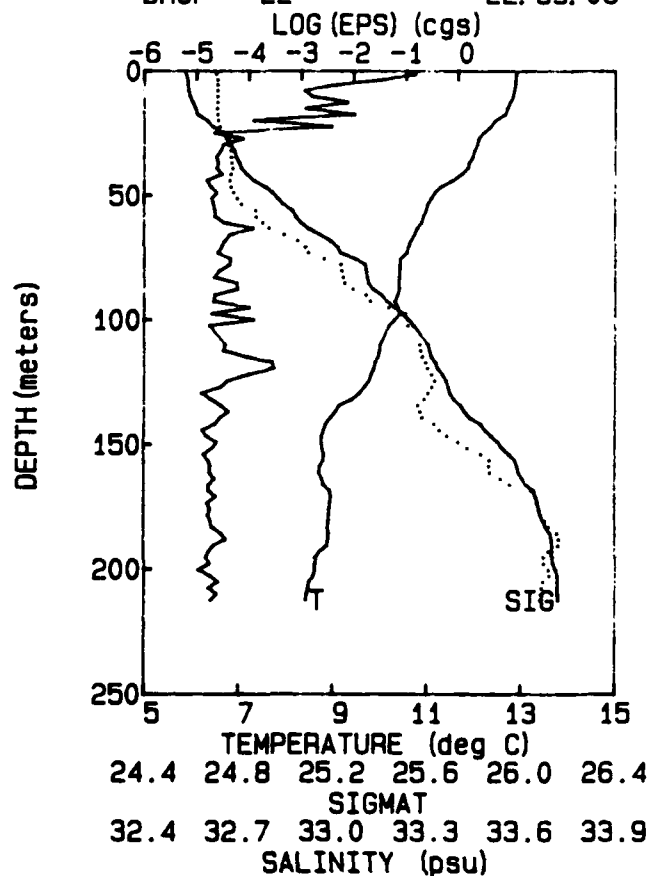
TAPE 150 06-03-87
 DROP 16 22: 09: 02



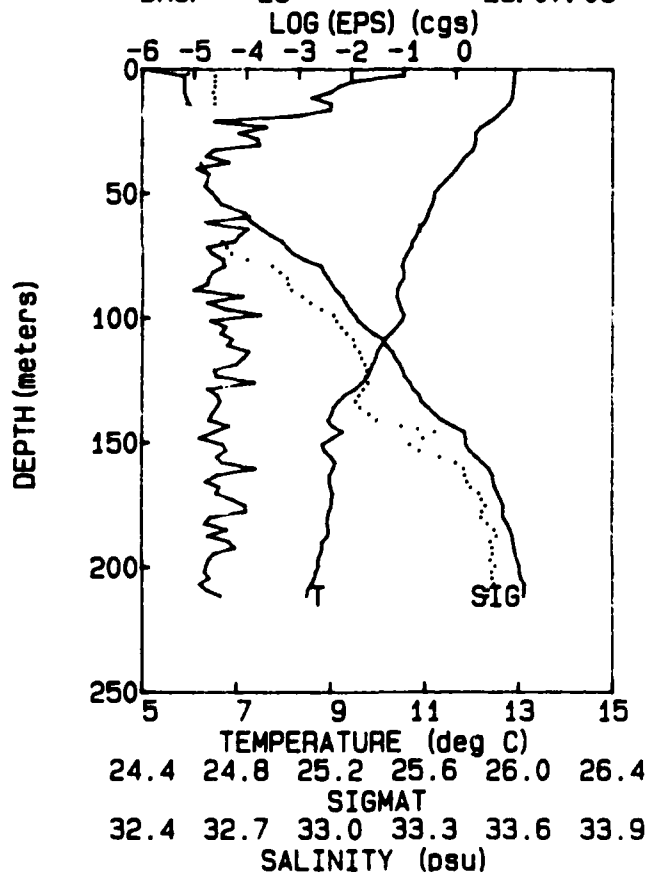
TAPE 150 06-03-87
DROP 21 22: 51: 09



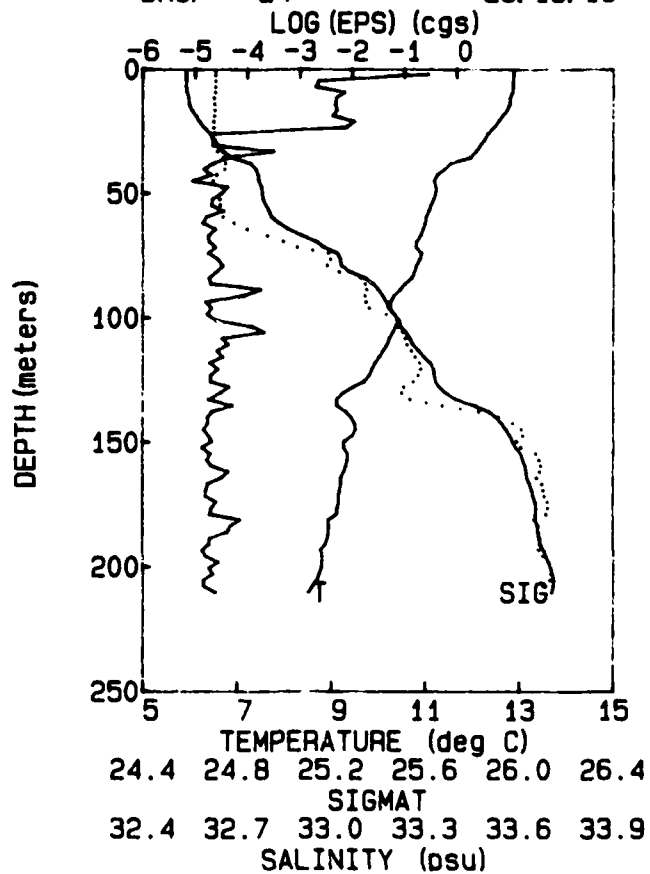
TAPE 150 06-03-87
DROP 22 22: 59: 06



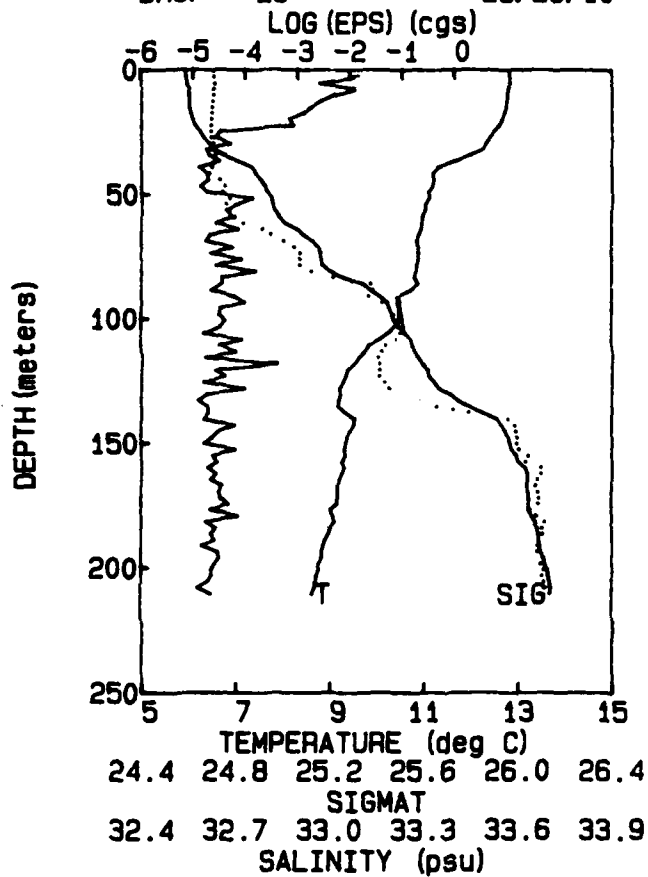
TAPE 150 06-03-87
DROP 23 23: 07: 06



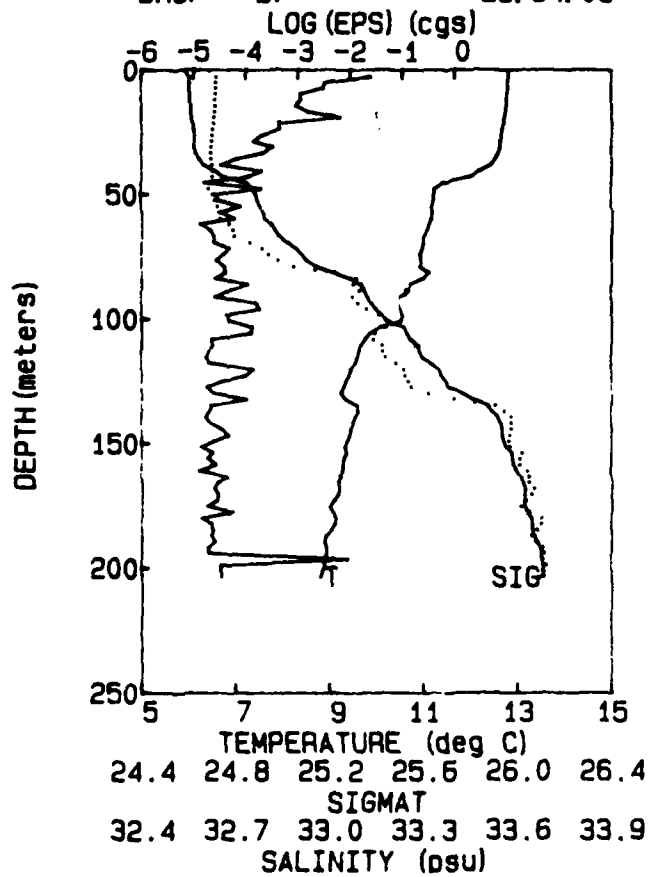
TAPE 150 06-03-87
DROP 24 23: 18: 16



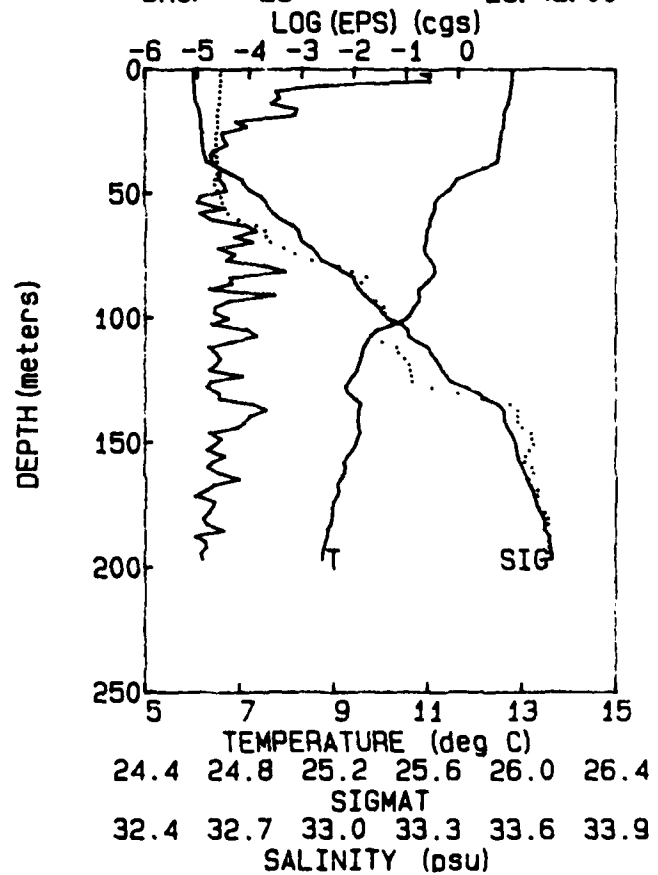
TAPE 150 06-03-87
 DROP 25 23: 26: 10



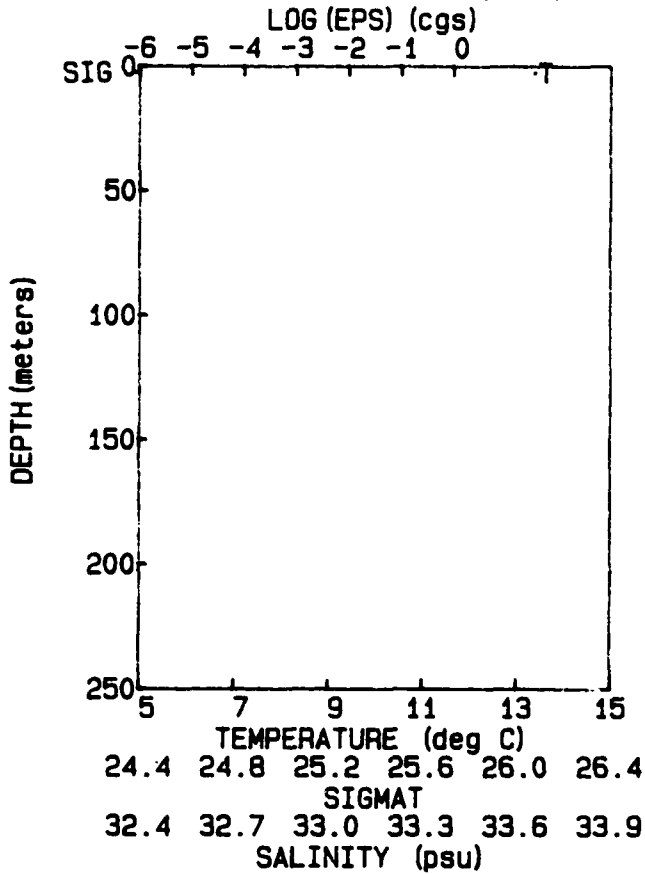
TAPE 150 06-03-87
 DROP 27 23: 34: 09



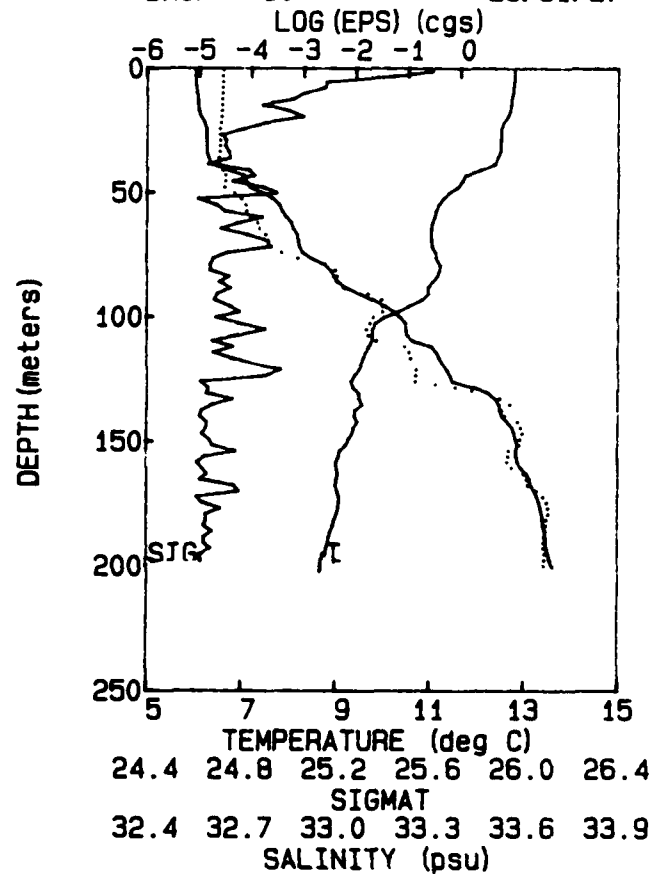
TAPE 150 06-03-87
 DROP 28 23: 42: 00



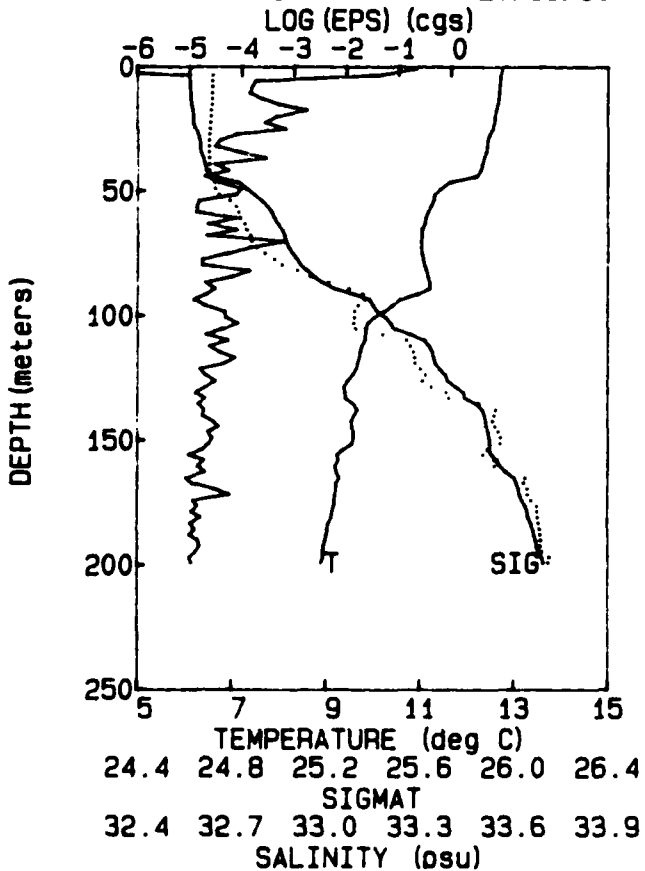
TAPE 150 06-03-87
DROP 29 23:48:45



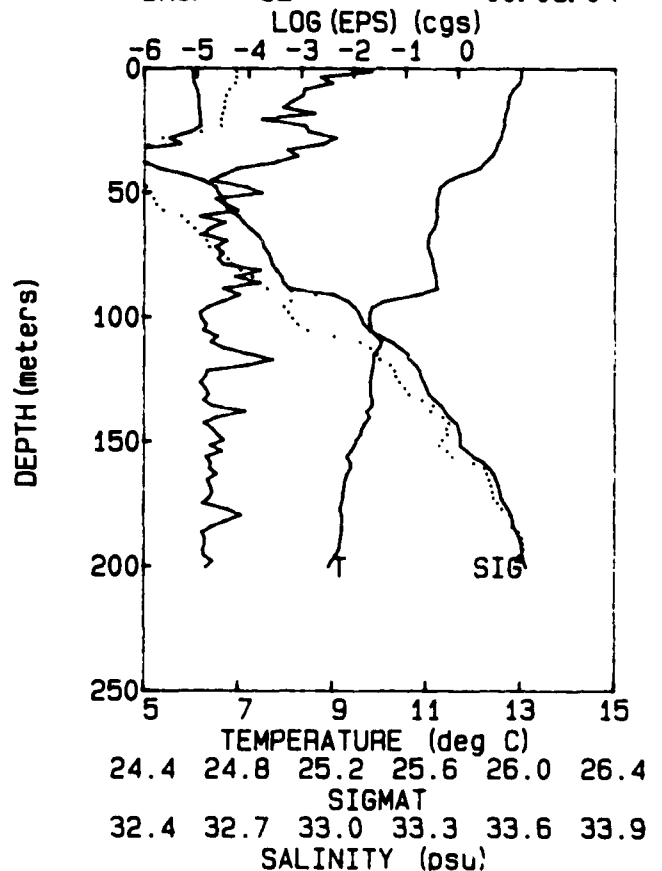
TAPE 150 06-03-87
DROP 30 23:51:27

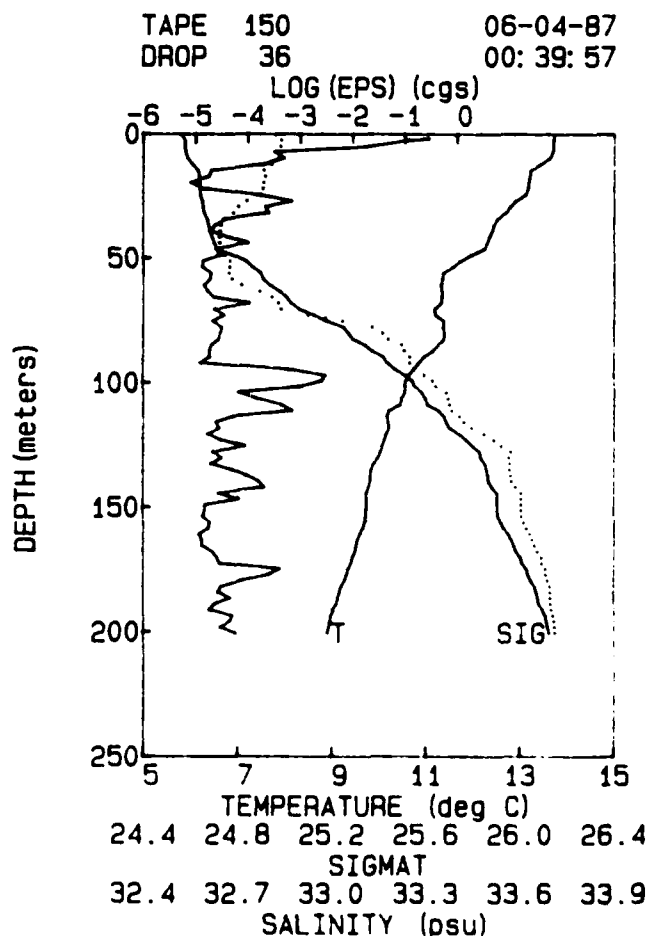
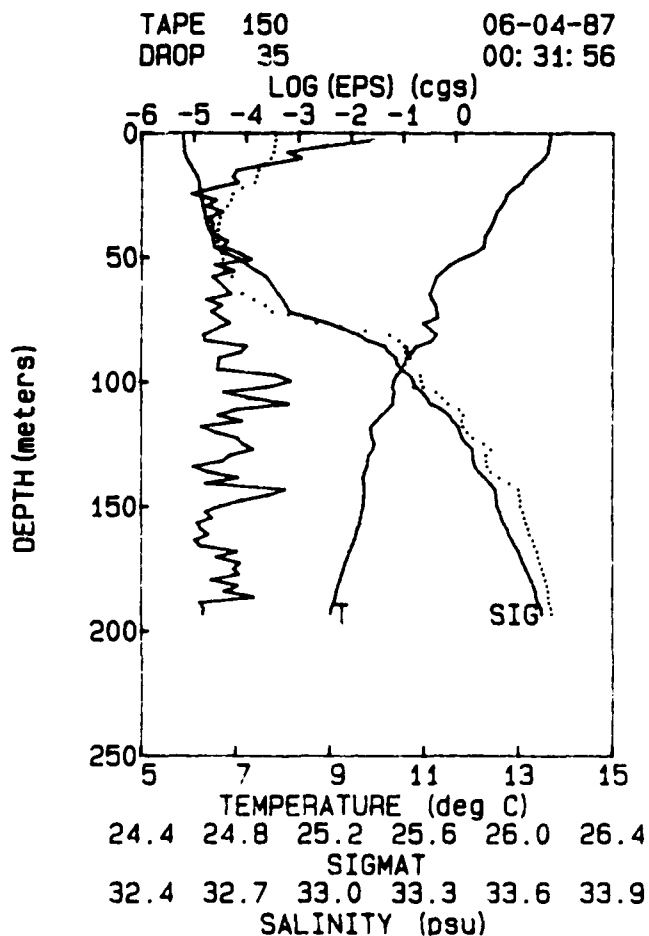
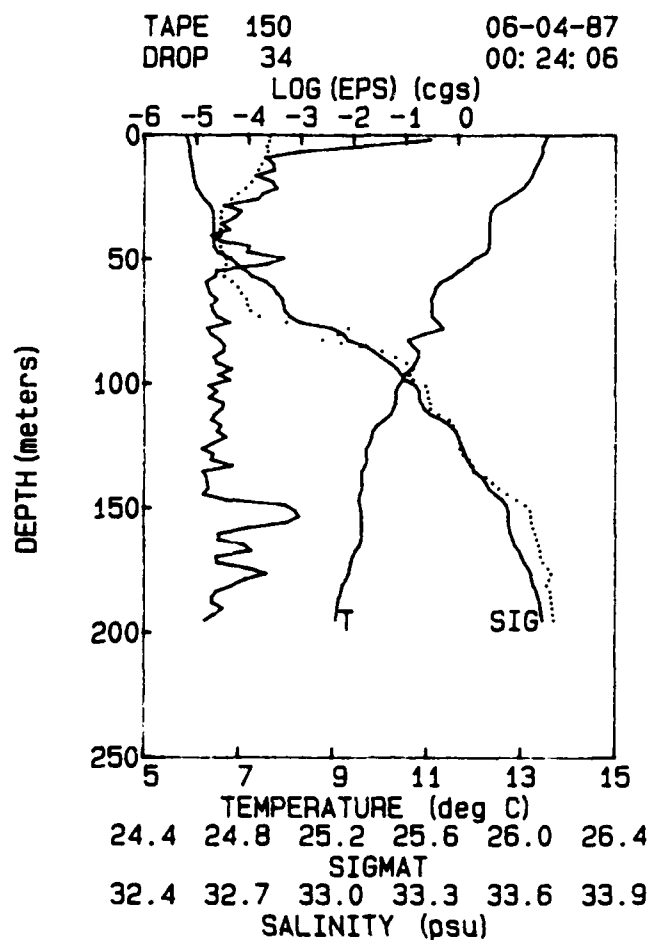
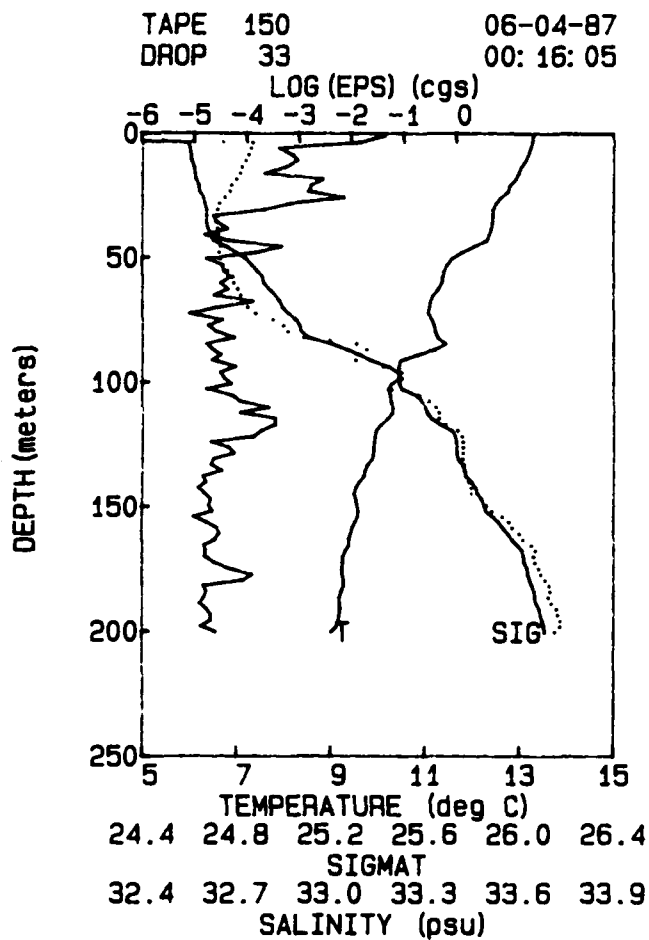


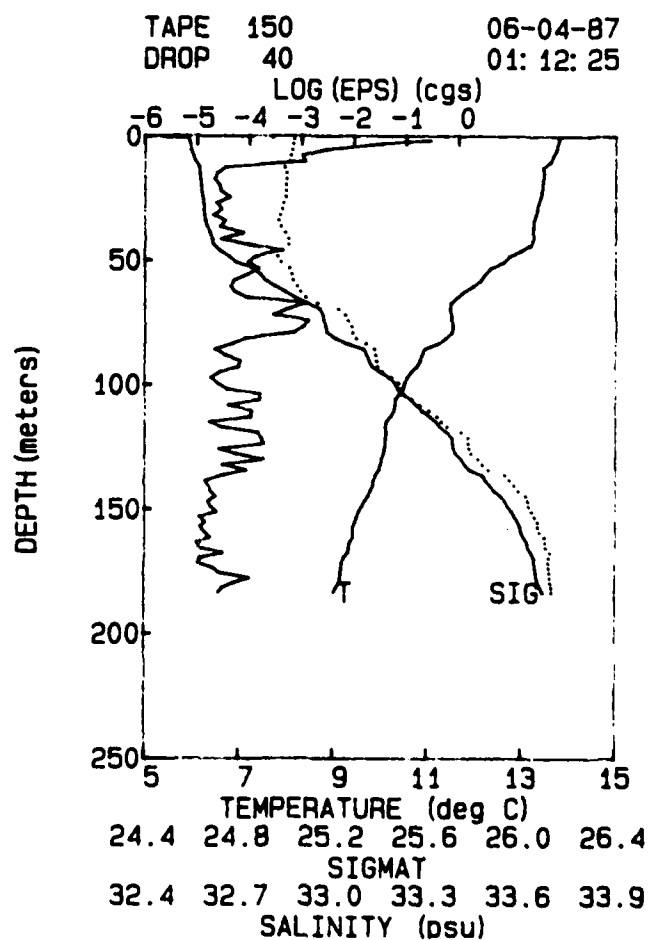
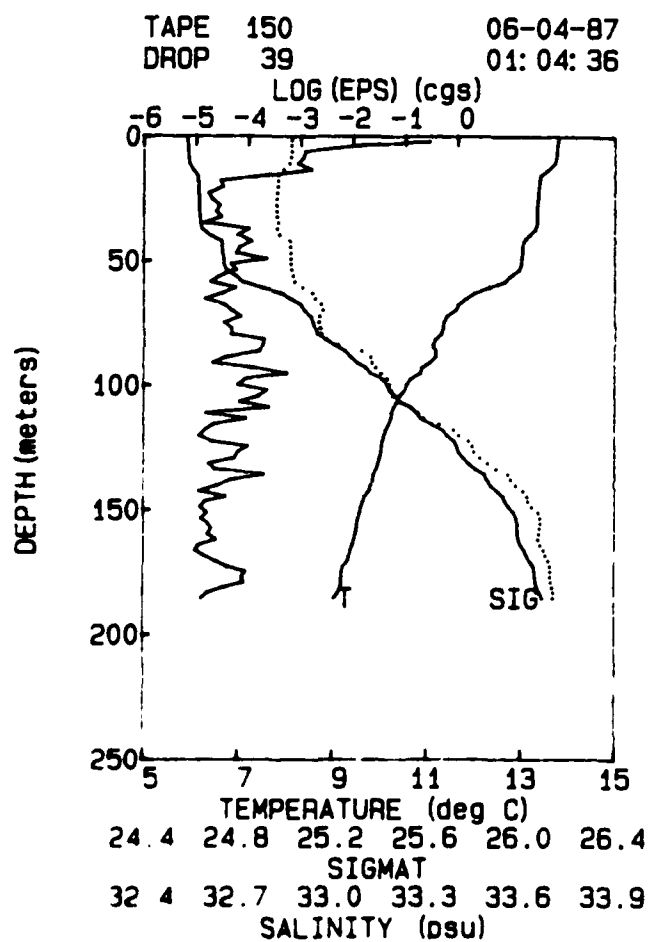
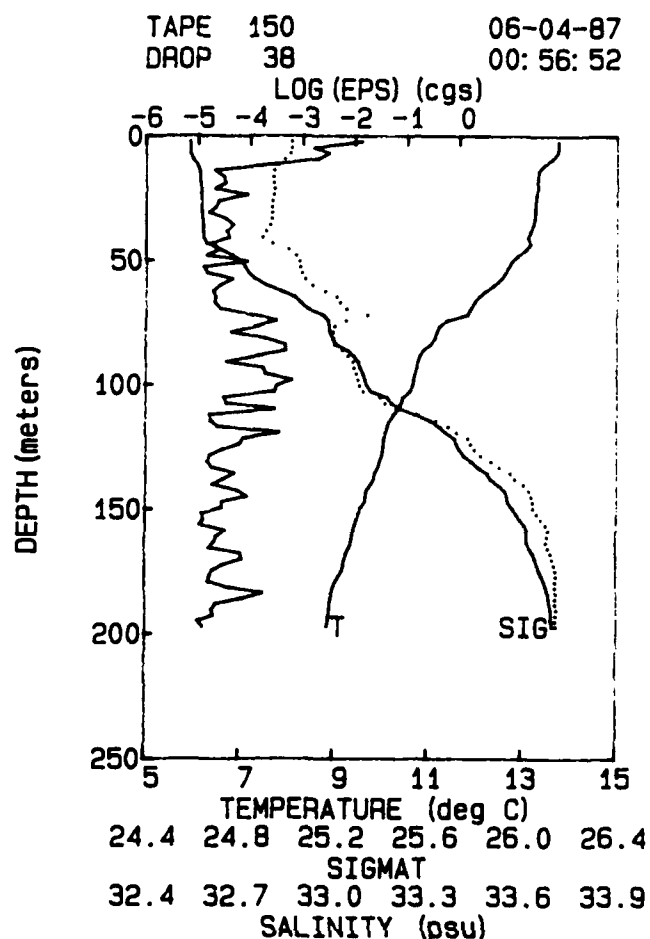
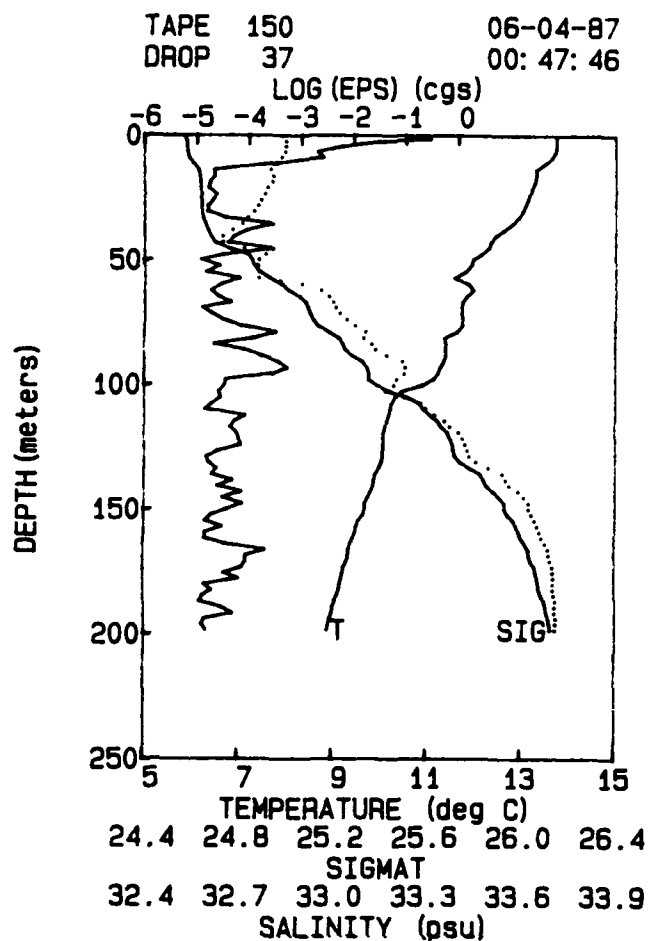
TAPE 150 06-03-87
DROP 31 23:59:58



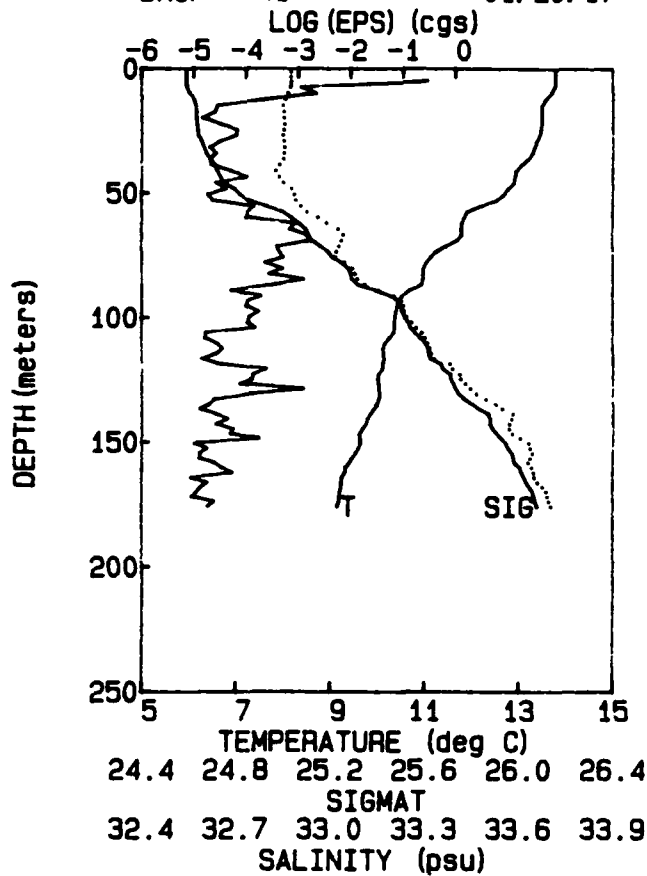
TAPE 150 06-04-87
DROP 32 00:08:04



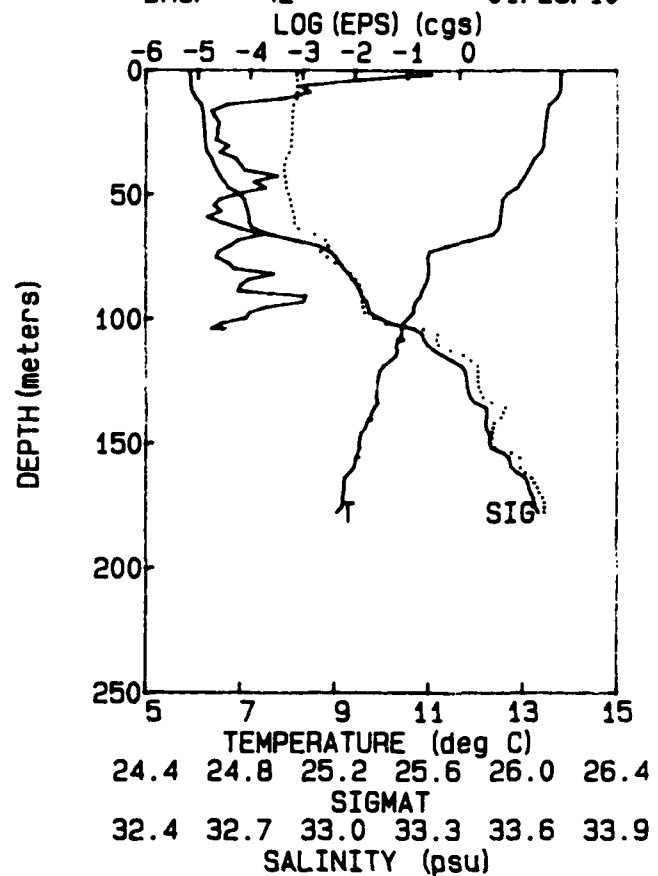




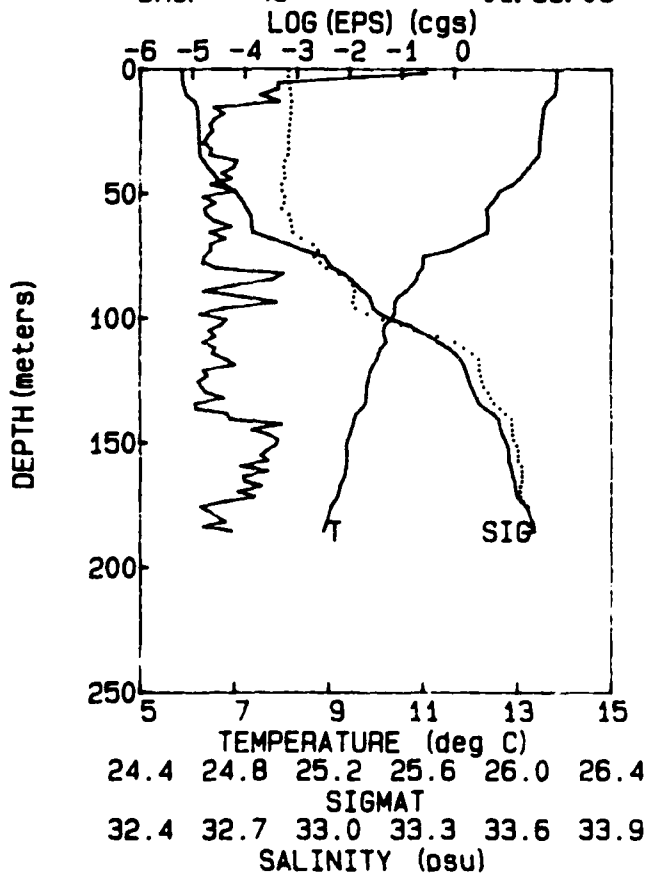
TAPE 150 06-04-87
DROP 41 01: 20: 17



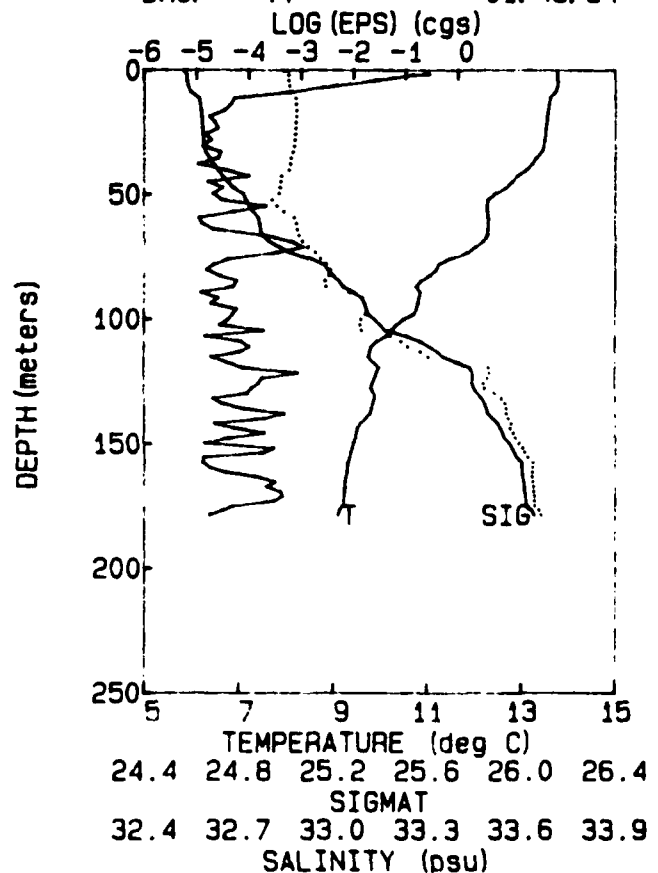
TAPE 150 06-04-87
DROP 42 01: 28: 10



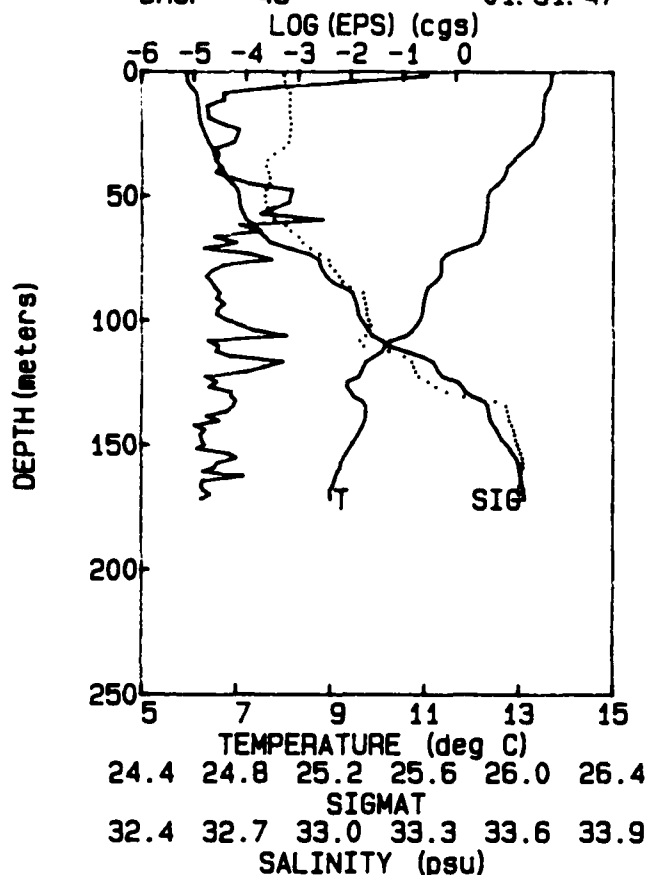
TAPE 150 06-04-87
DROP 43 01: 36: 06



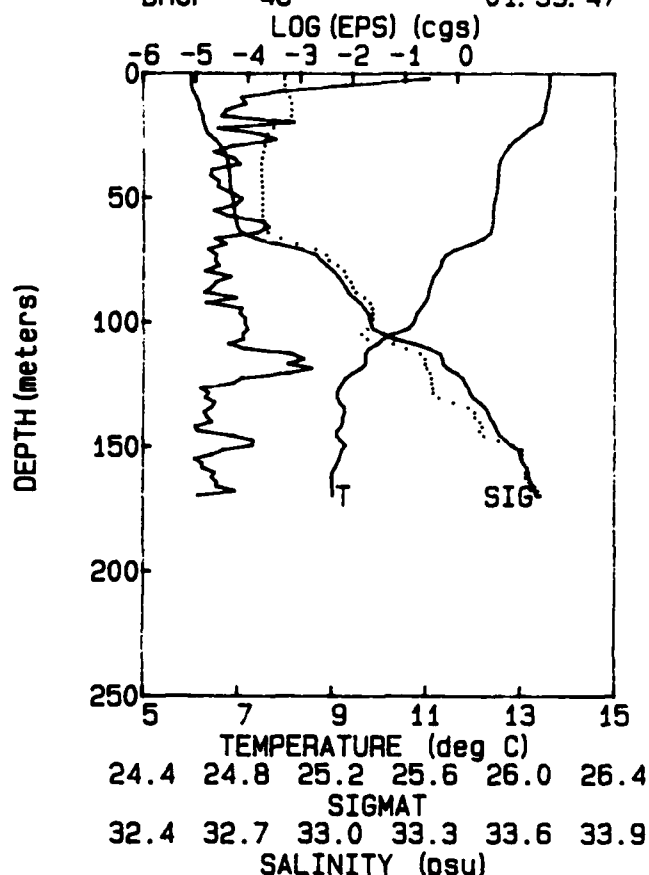
TAPE 150 06-04-87
DROP 44 01: 43: 54



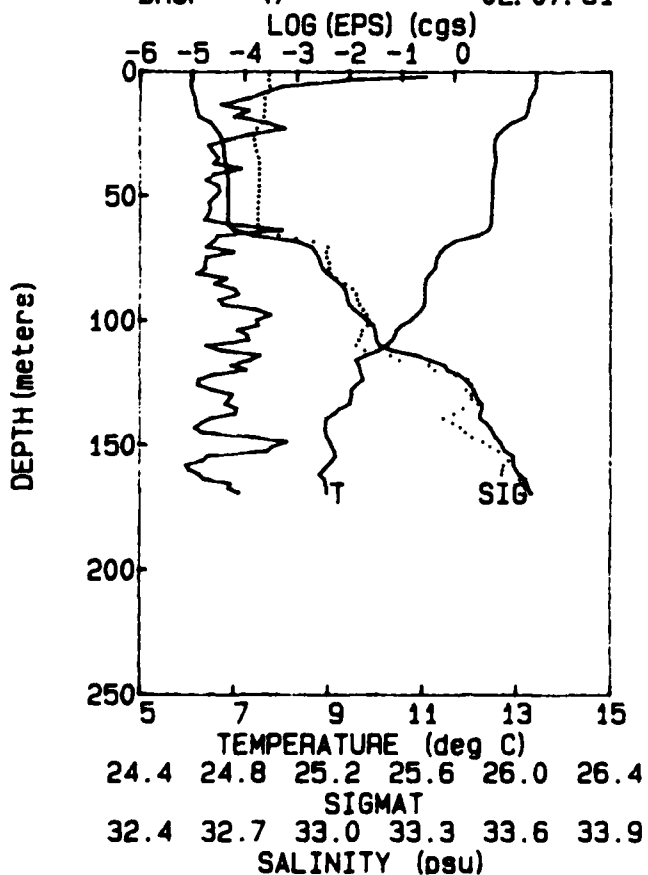
TAPE 150 06-04-87
DROP 45 01: 51: 47



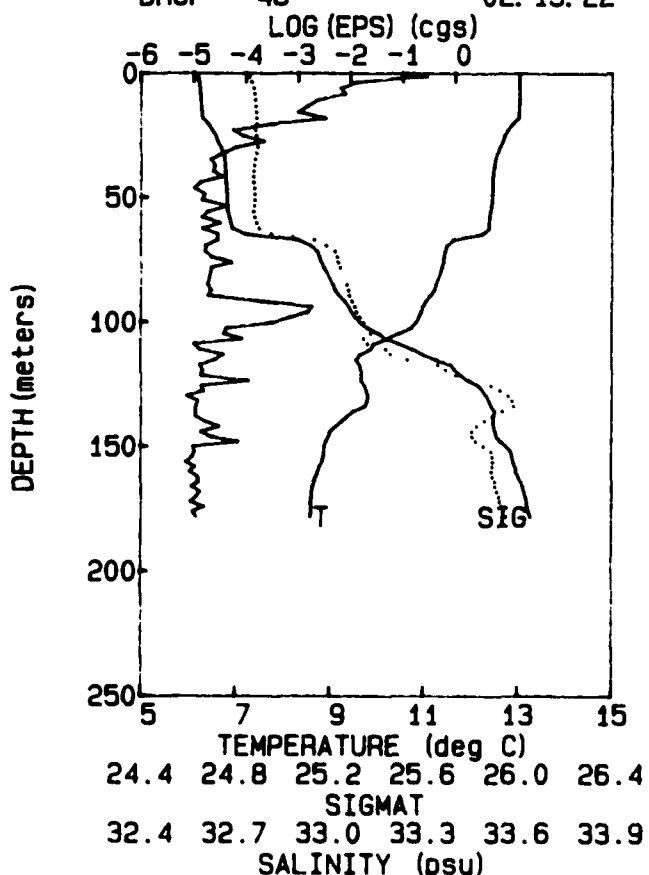
TAPE 150 06-04-87
DROP 46 01: 59: 47

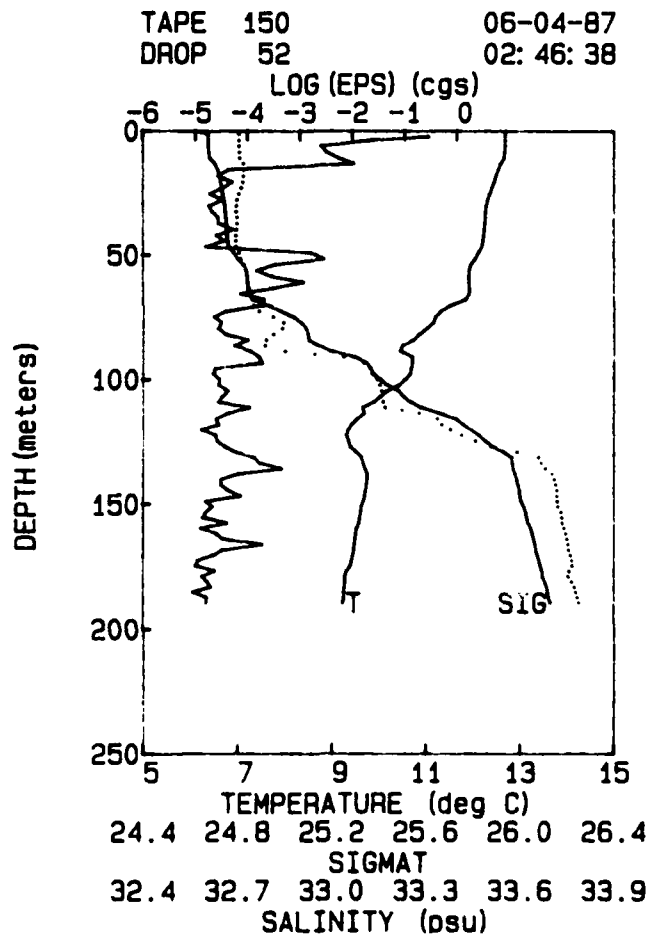
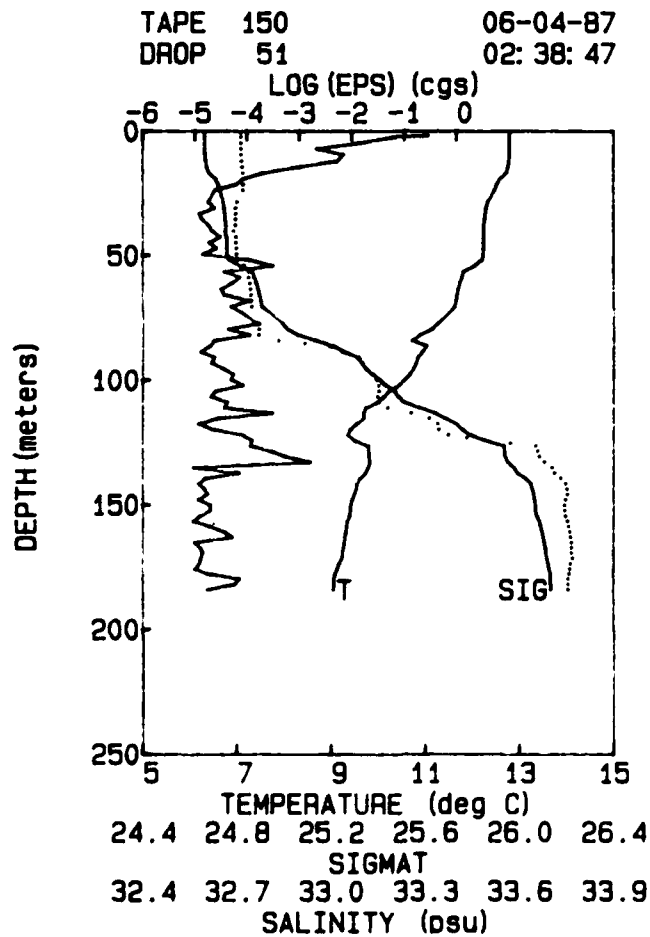
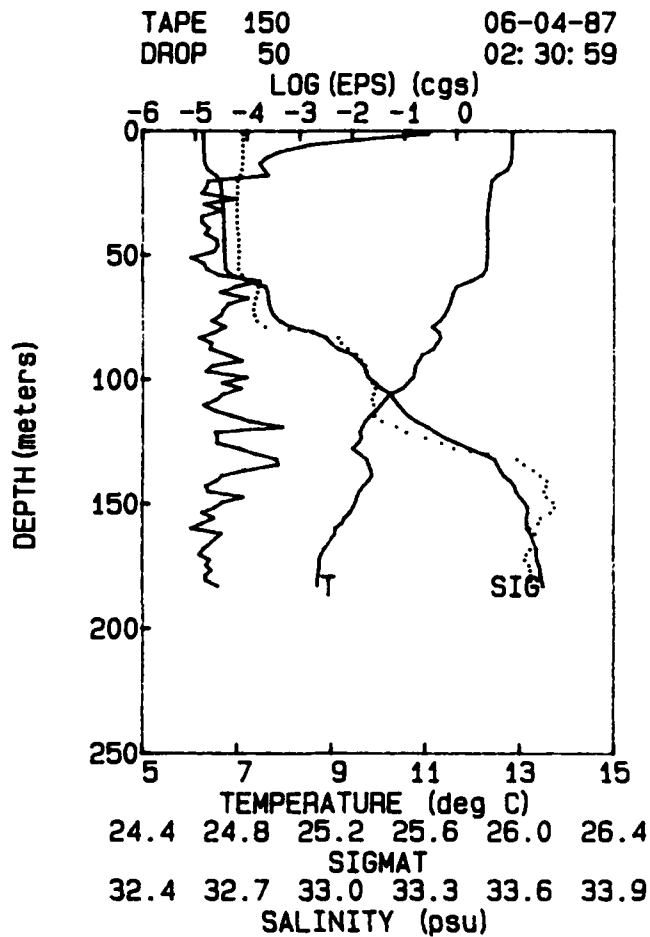
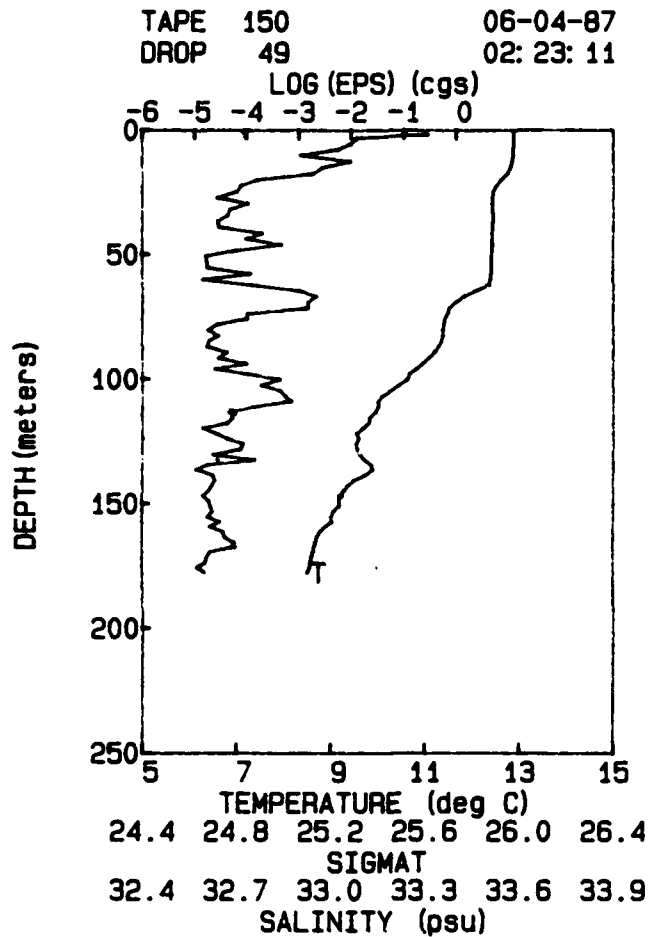


TAPE 150 06-04-87
DROP 47 02: 07: 31

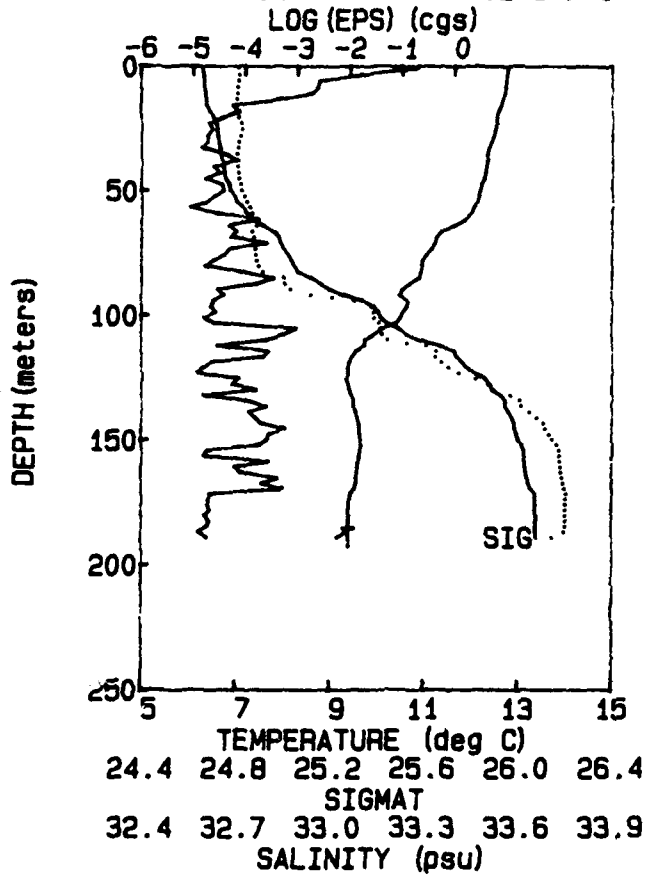


TAPE 150 06-04-87
DROP 48 02: 15: 22

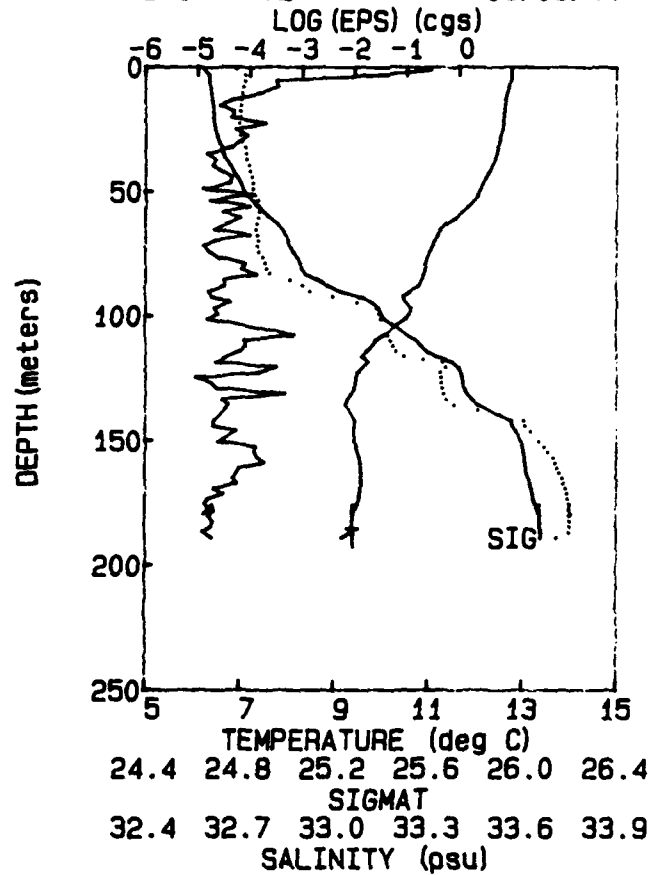




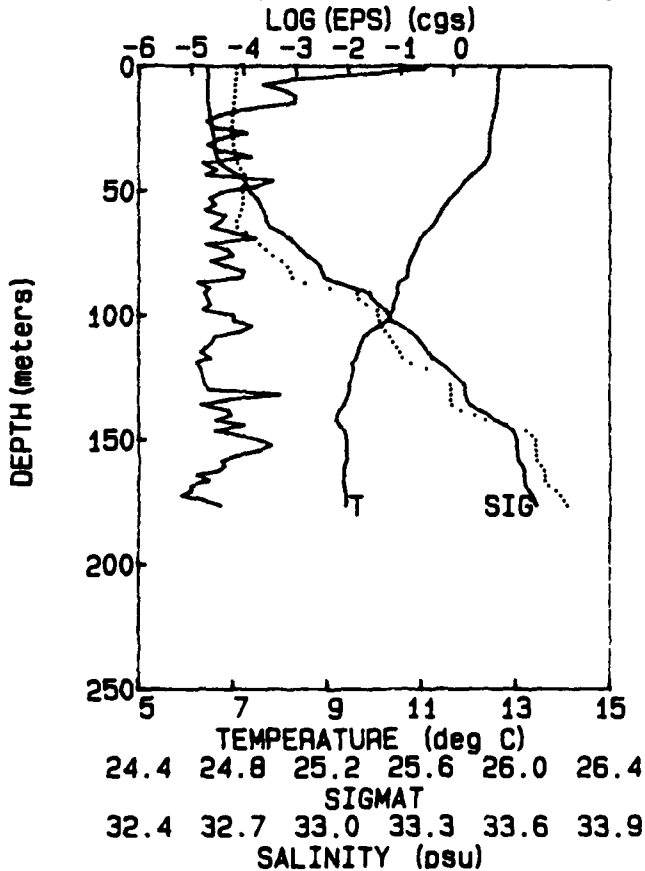
TAPE 151 06-04-87
DROP 01 02: 57: 48



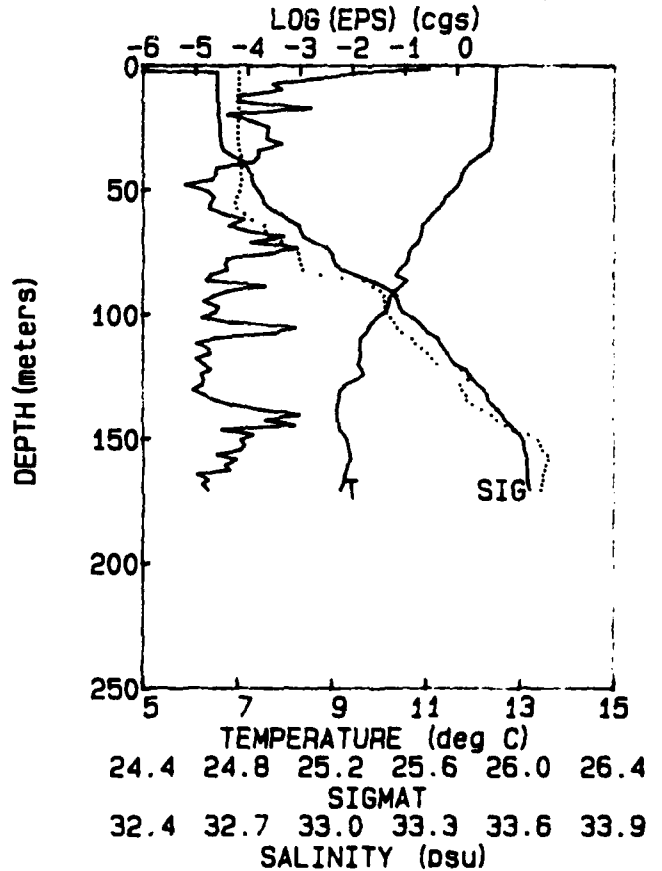
TAPE 151 06-04-87
DROP 02 03: 05: 44

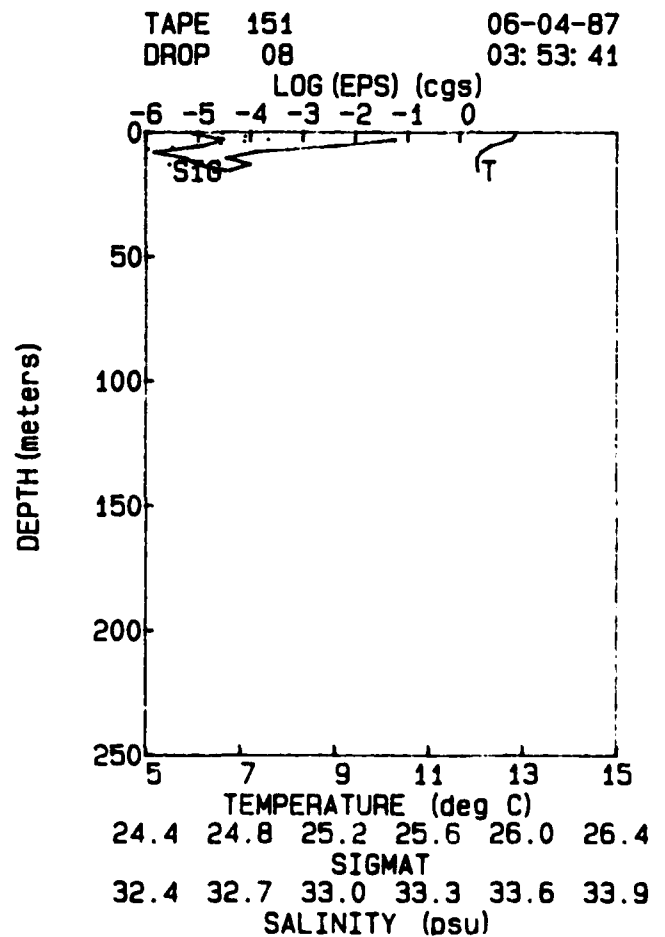
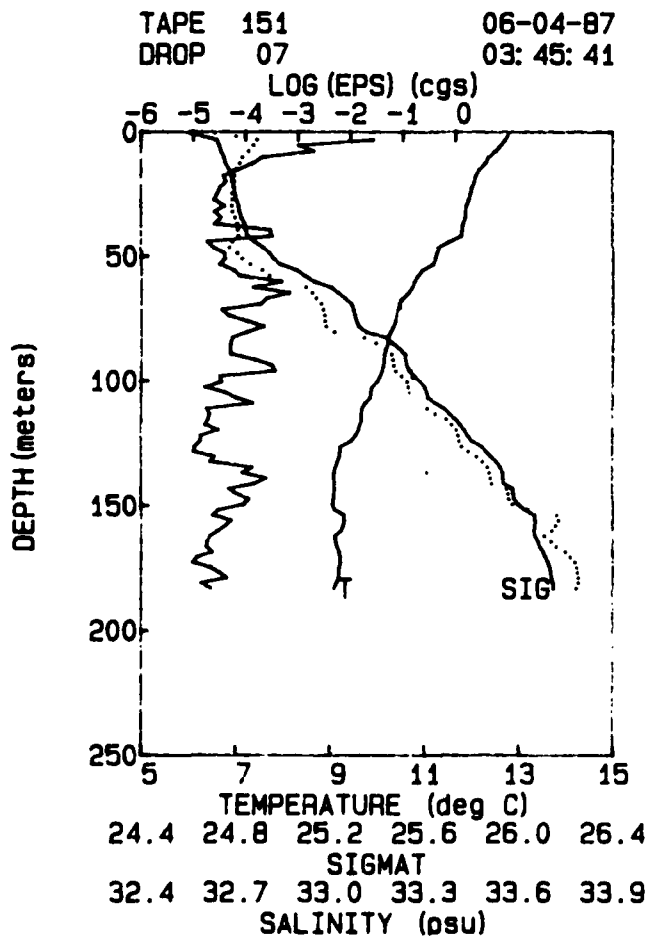
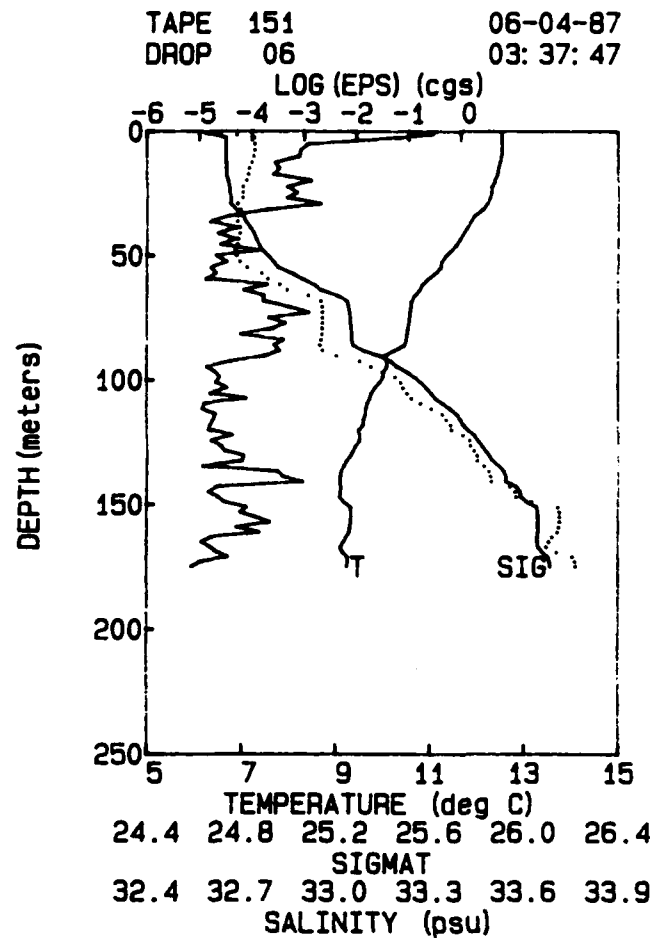
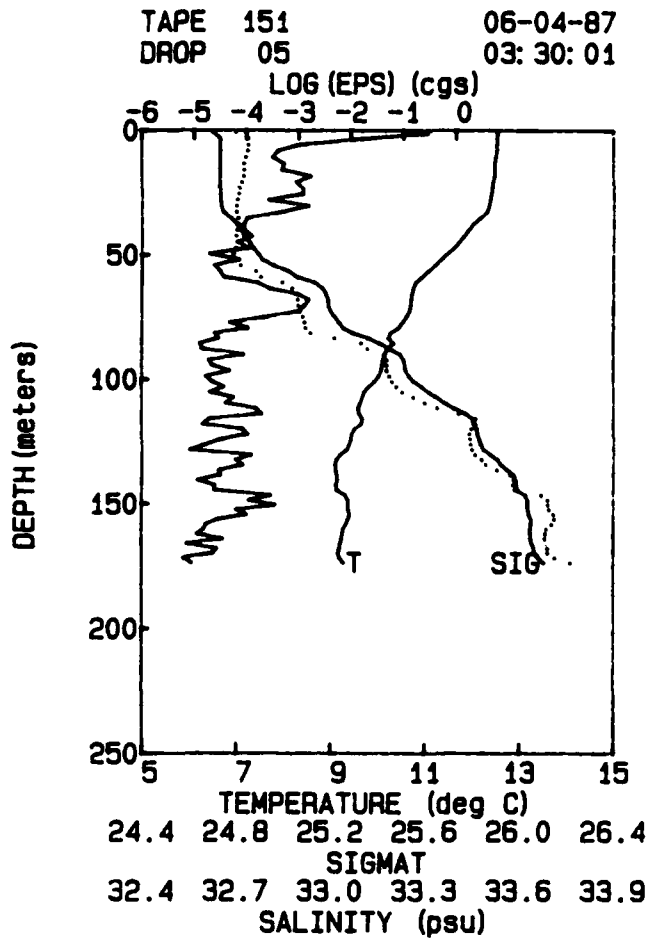


TAPE 151 06-04-87
DROP 03 03: 14: 22

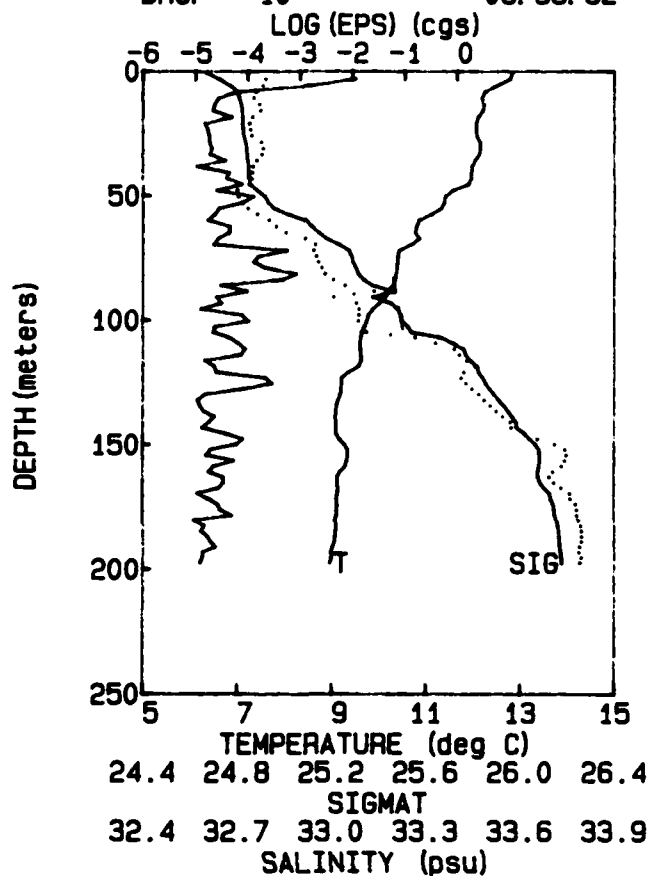


TAPE 151 06-04-87
DROP 04 03: 22: 09

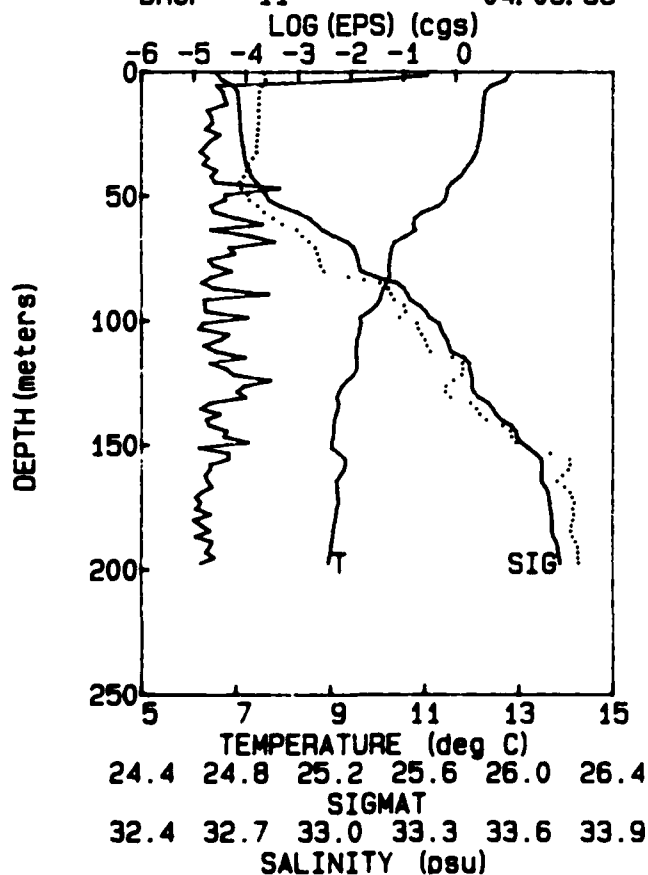




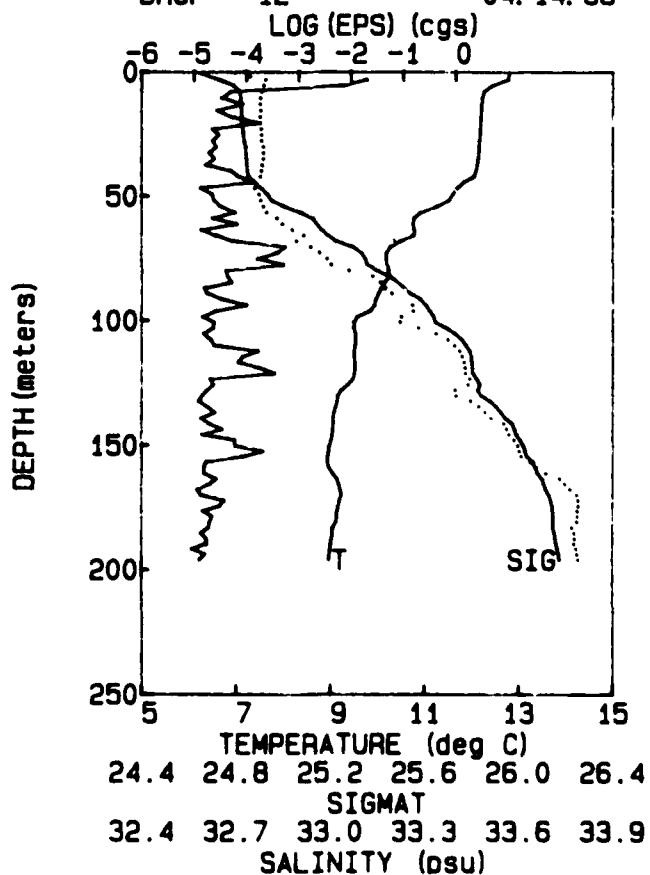
TAPE 151 06-04-87
 DROP 10 03: 58: 32



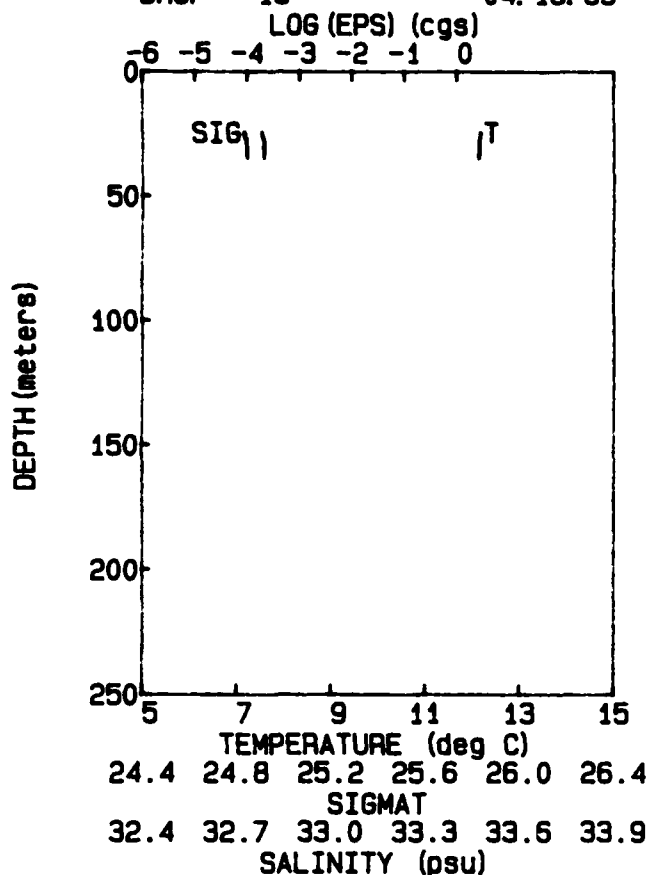
TAPE 151 06-04-87
 DROP 11 04: 06: 38



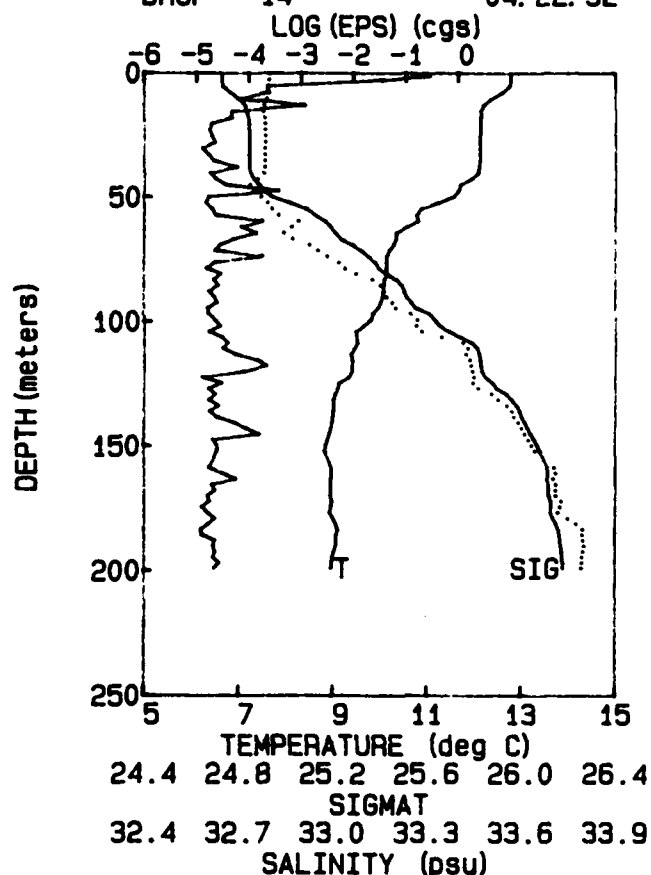
TAPE 151 06-04-87
 DROP 12 04: 14: 35



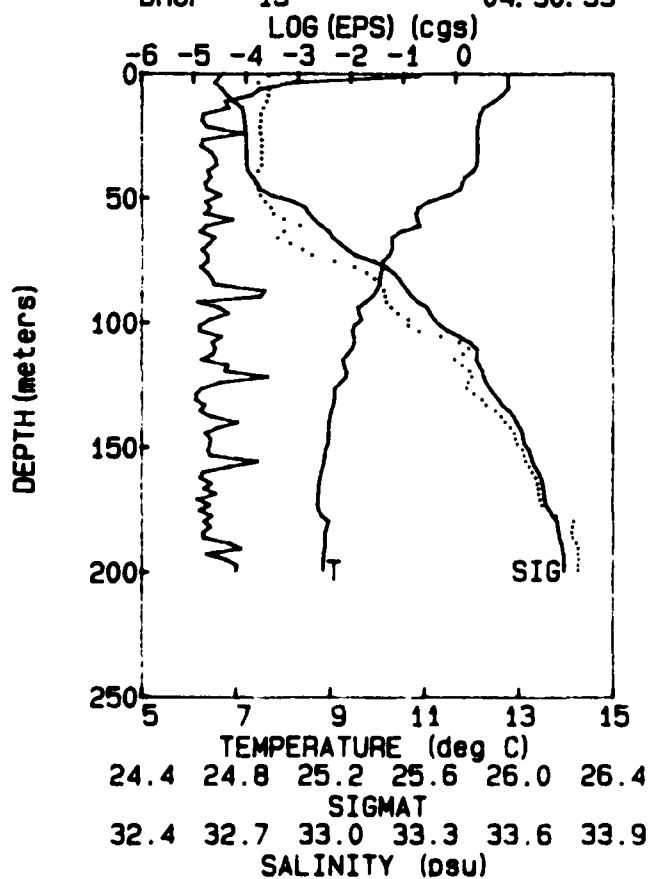
TAPE 151 06-04-87
DROP 13 04:18:59



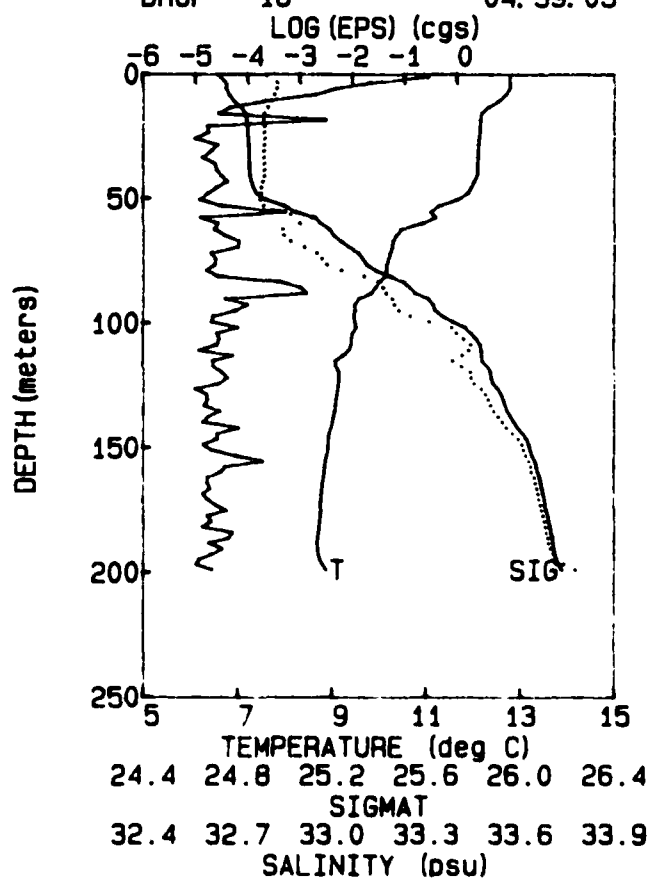
TAPE 151 06-04-87
DROP 14 04:22:52



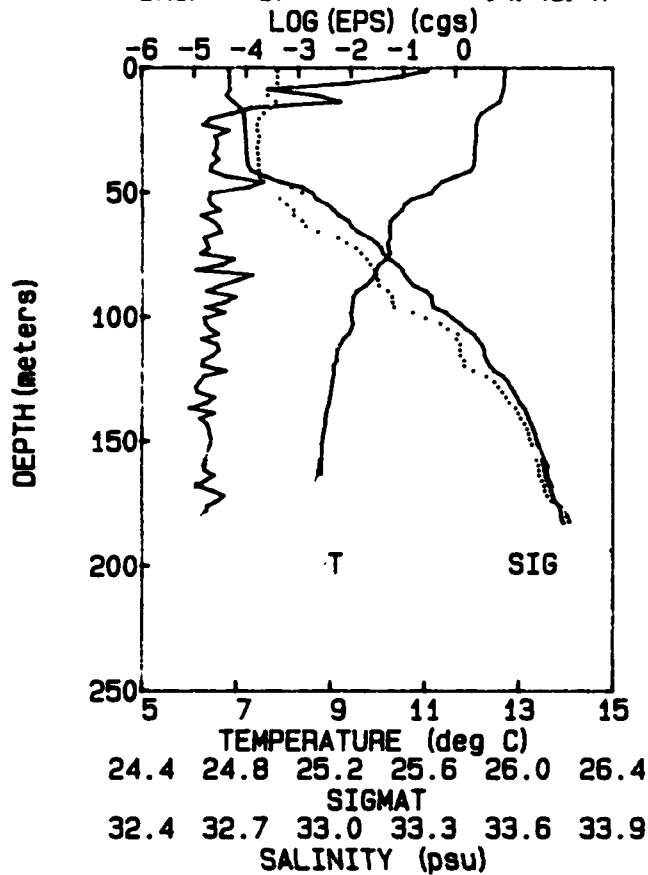
TAPE 151 06-04-87
DROP 15 04:30:59



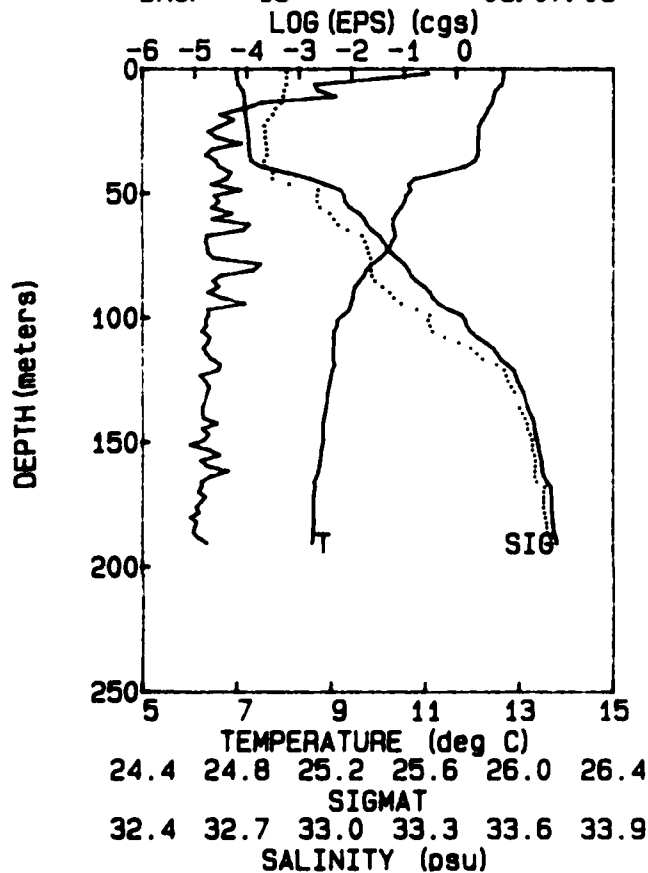
TAPE 151 06-04-87
DROP 16 04:39:05



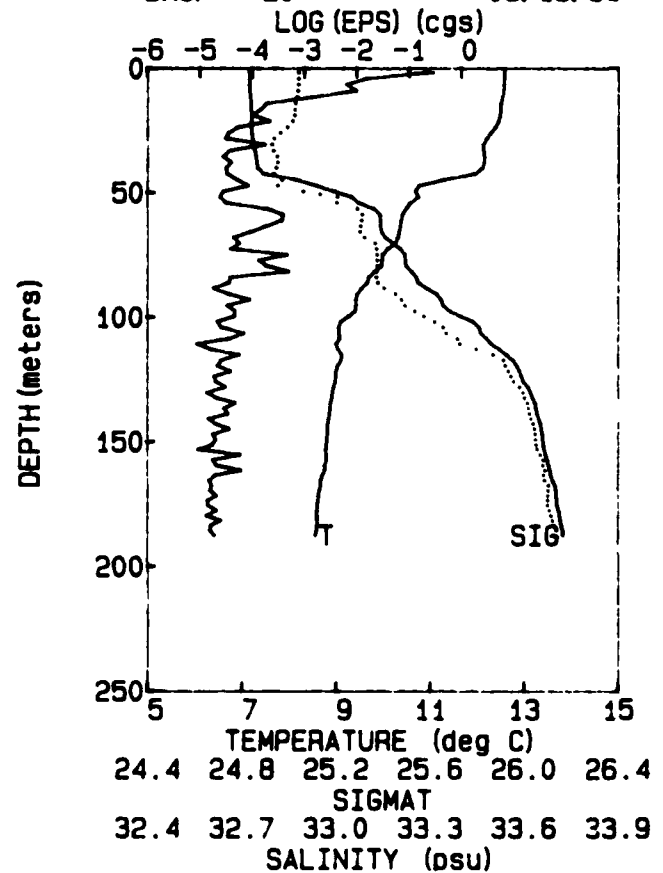
TAPE 151 06-04-87
 DROP 17 04: 49: 47

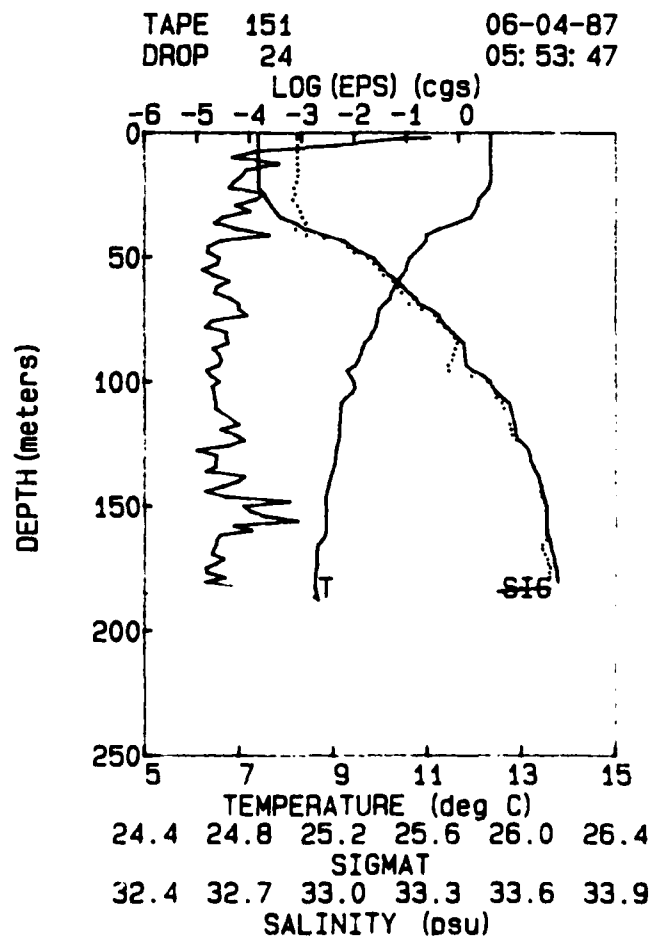
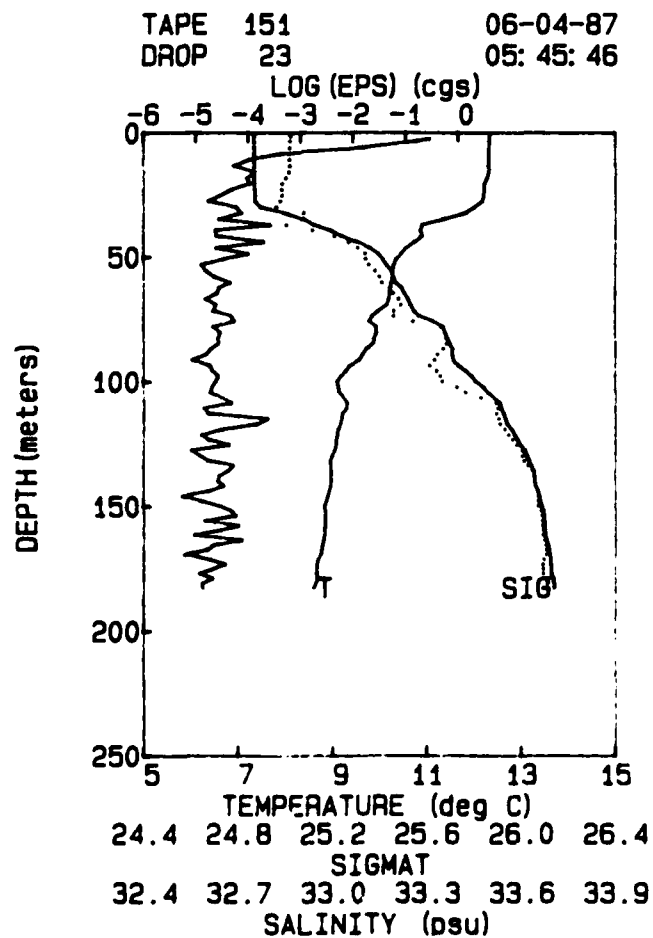
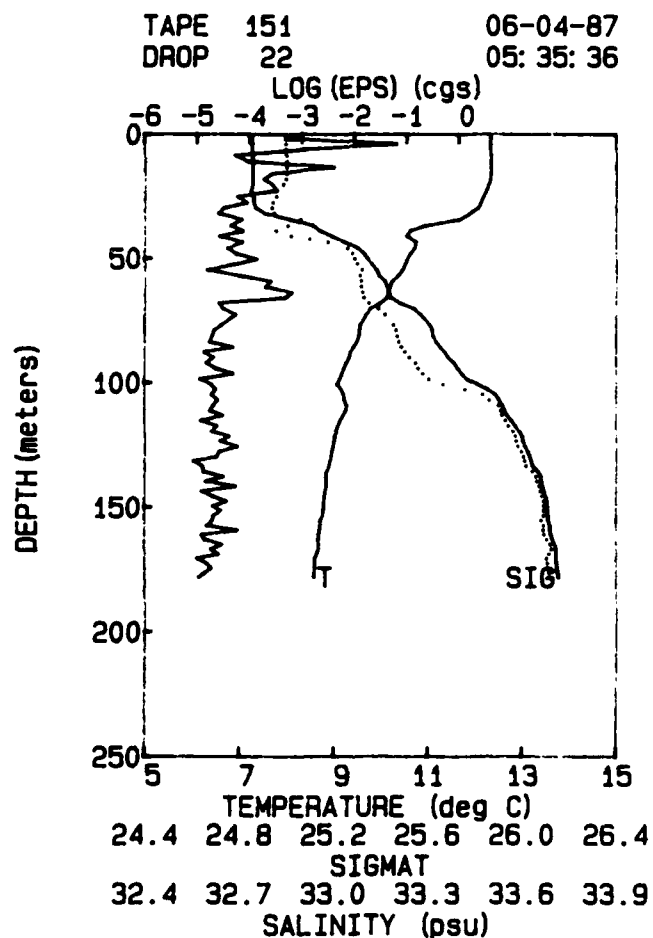
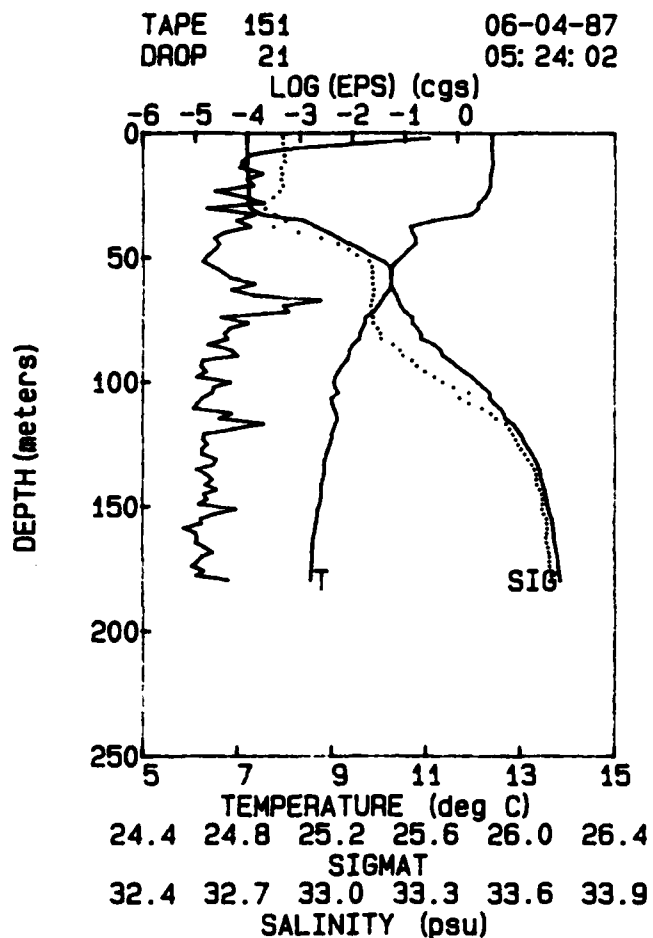


TAPE 151 06-04-87
 DROP 19 05: 07: 03

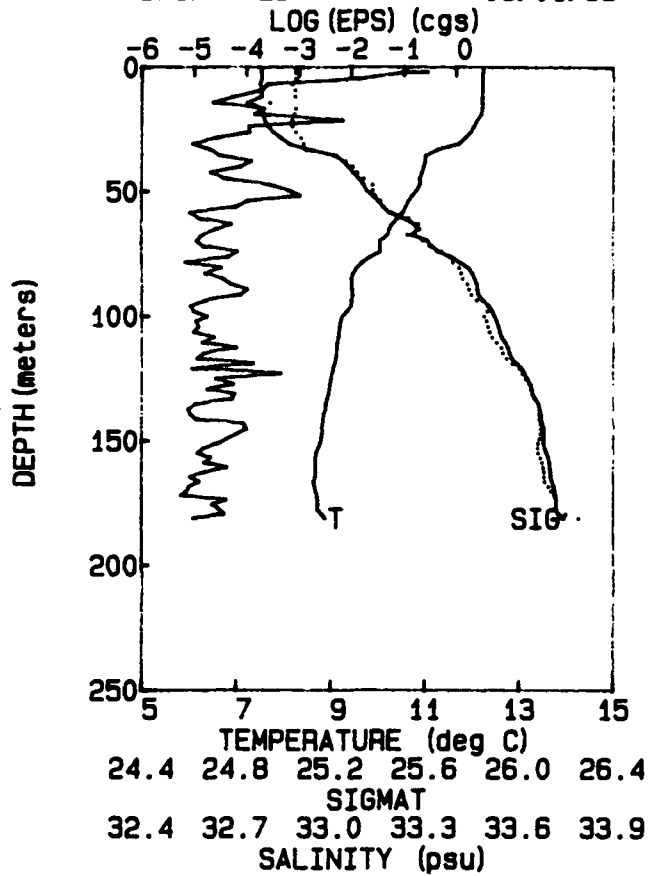


TAPE 151 06-04-87
 DROP 20 05: 15: 51

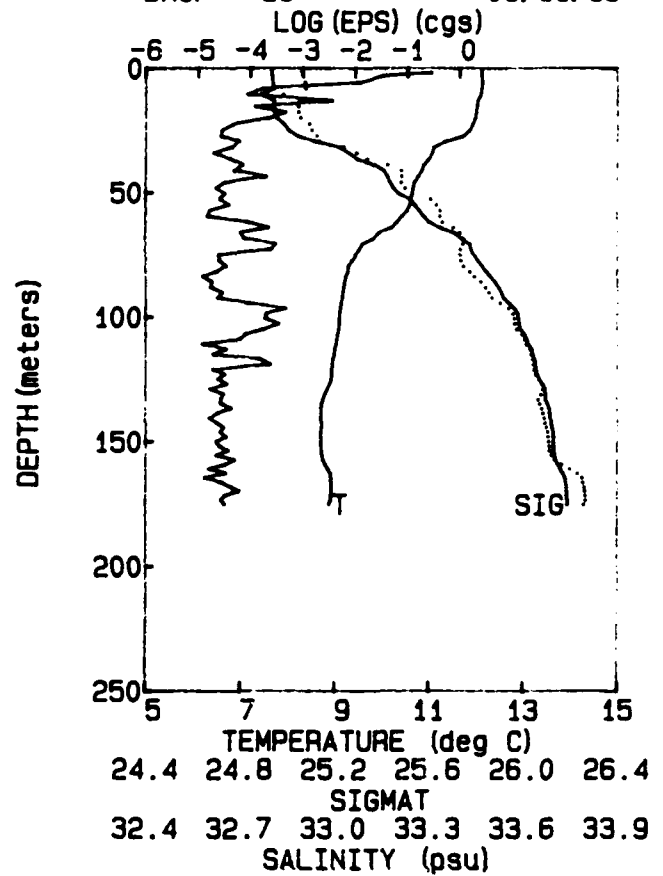




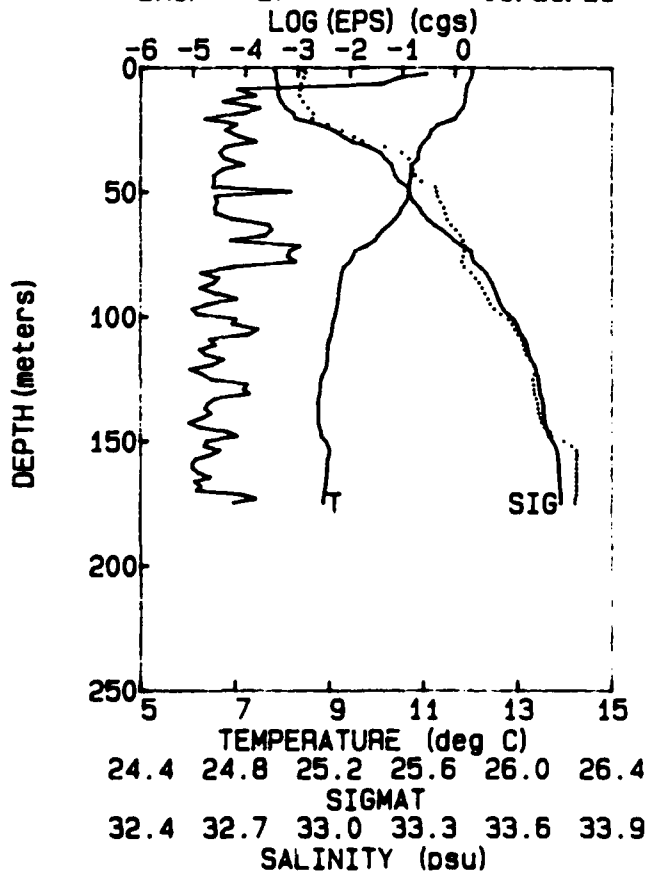
TAPE 151 06-04-87
DROP 25 06: 01: 55



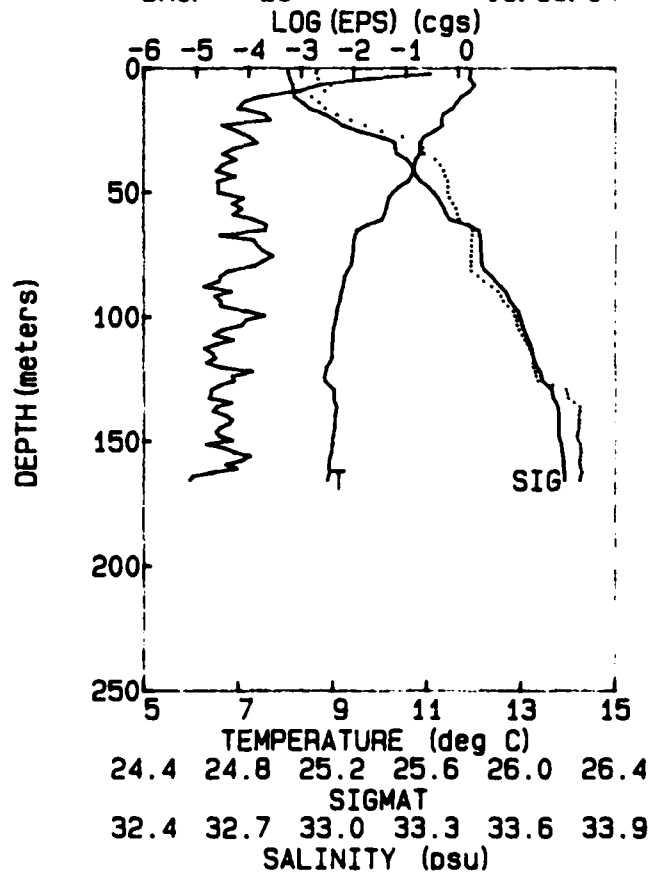
TAPE 151 06-04-87
DROP 26 06: 11: 35



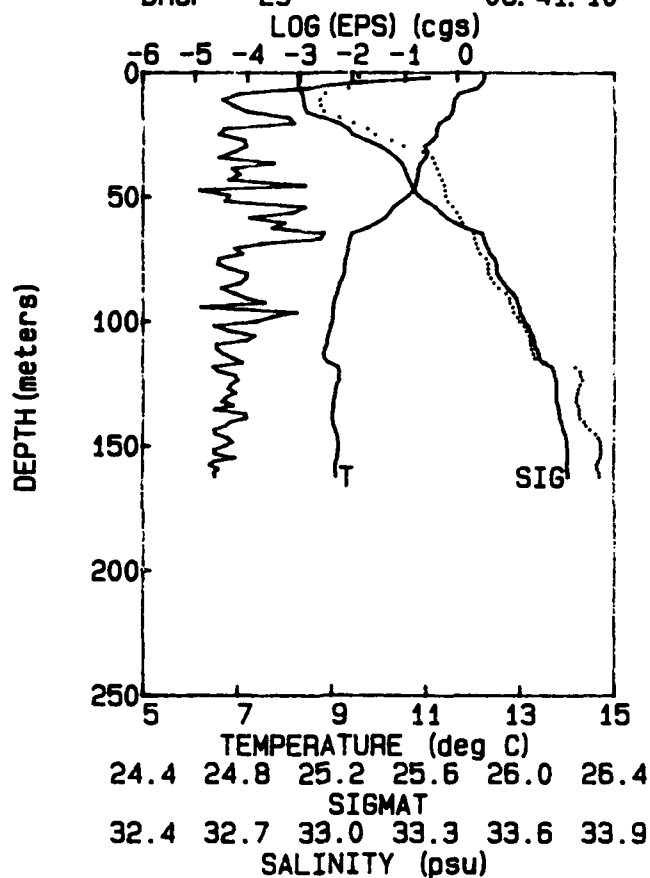
TAPE 151 06-04-87
DROP 27 06: 21: 21



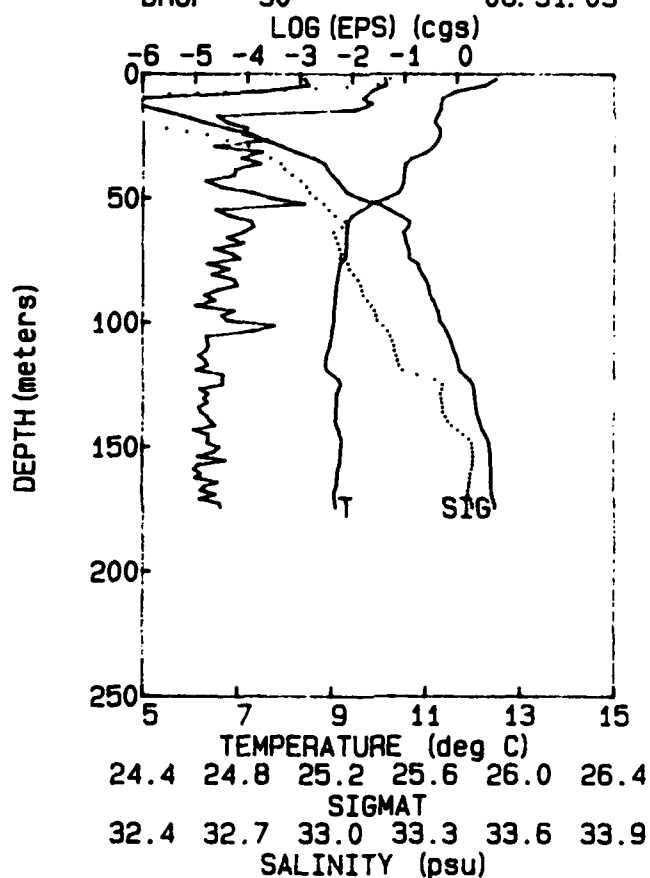
TAPE 151 06-04-87
DROP 28 06: 33: 14



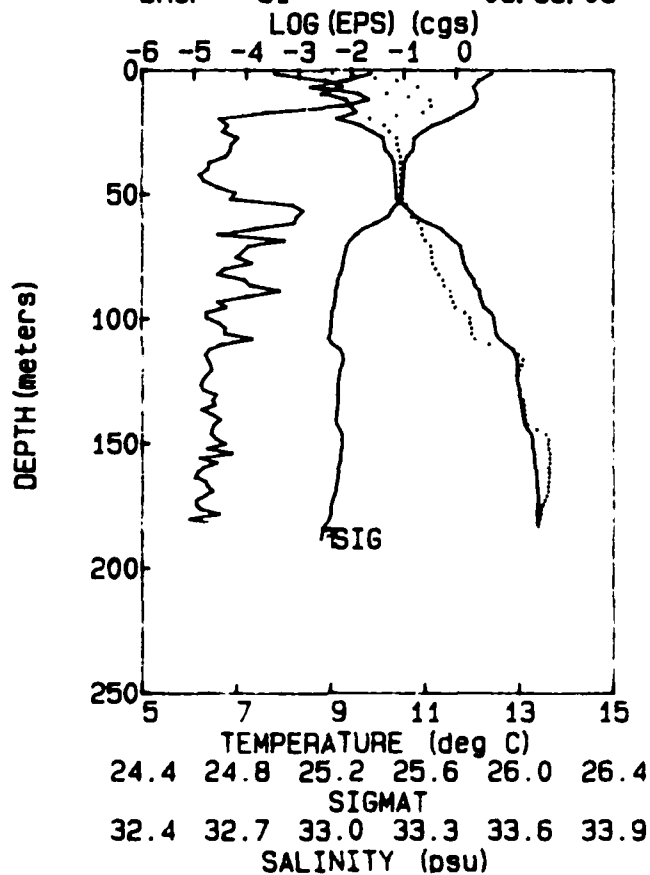
TAPE 151 06-04-87
DROP 29 06: 41: 10



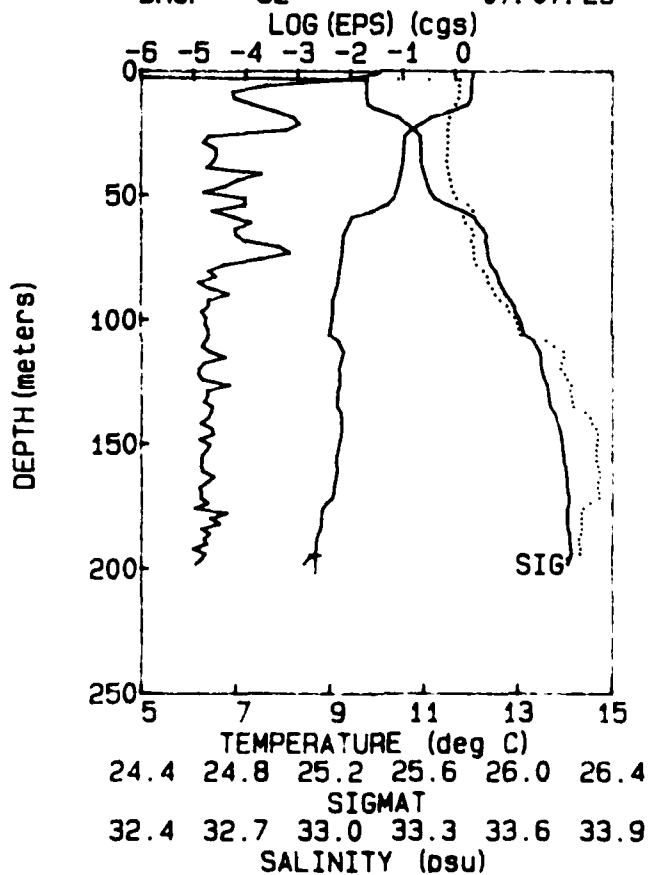
TAPE 151 06-04-87
DROP 30 06: 51: 03



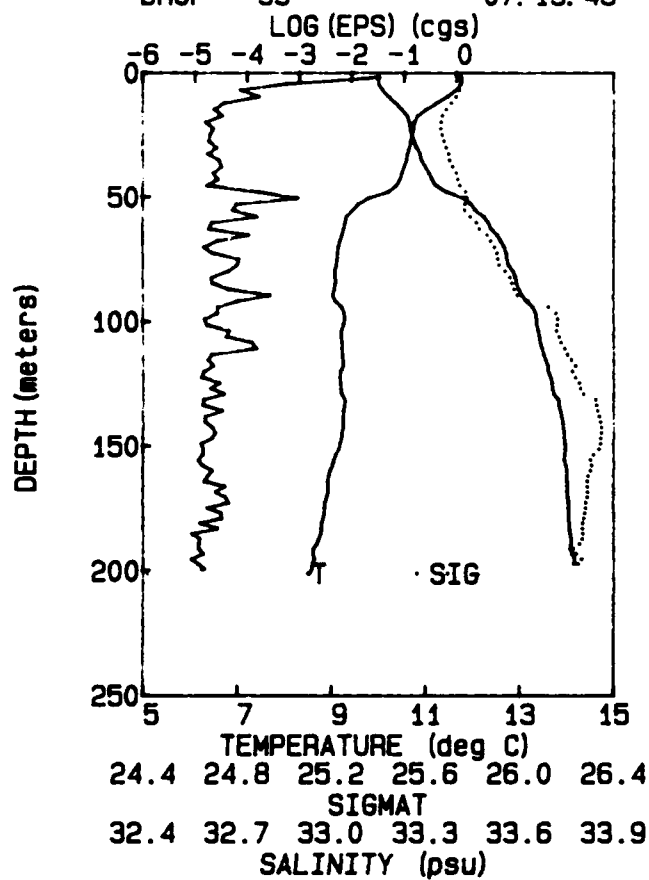
TAPE 151 06-04-87
DROP 31 06: 59: 08



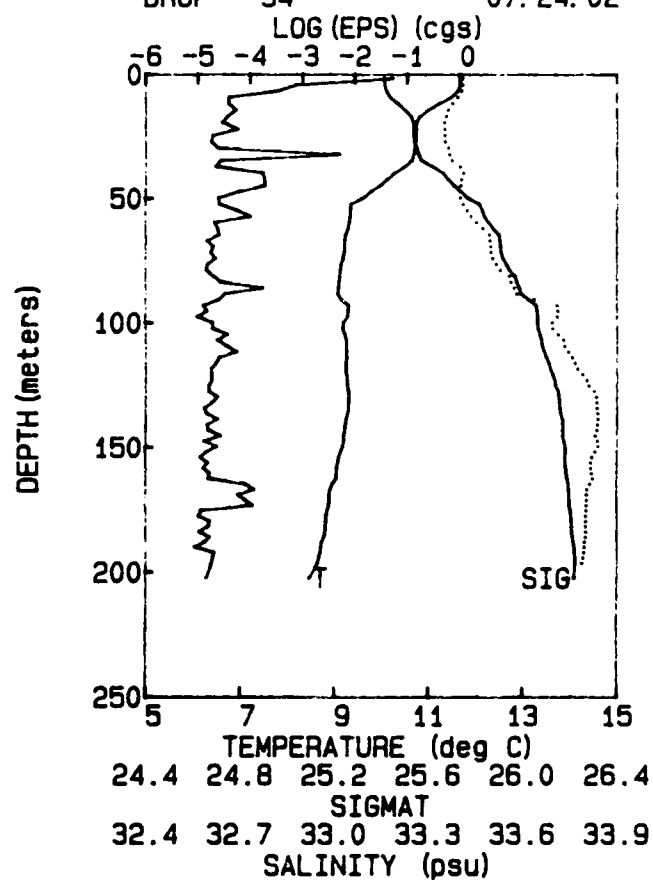
TAPE 151 06-04-87
DROP 32 07: 07: 29



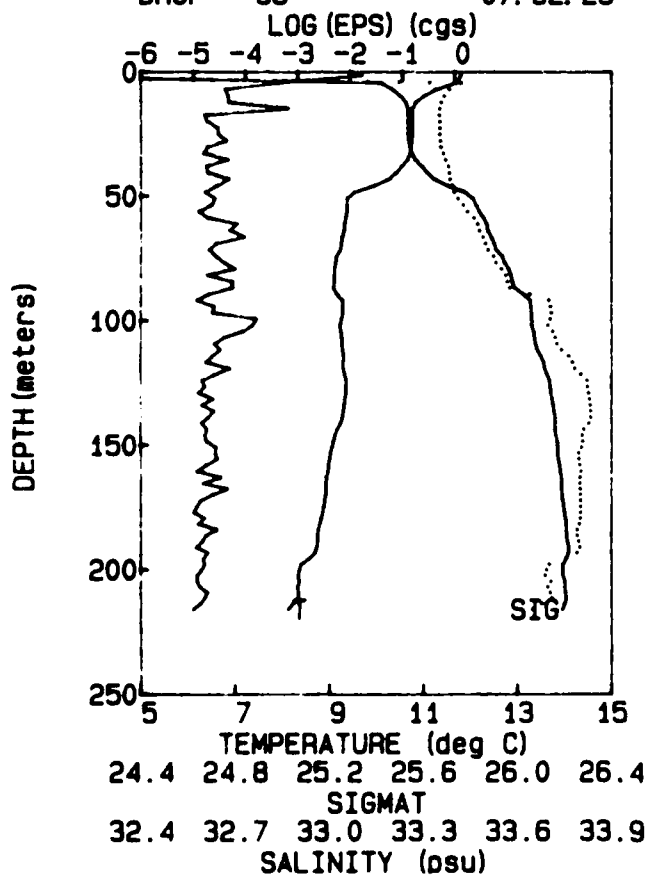
TAPE 151 06-04-87
DROP 33 07: 15: 45



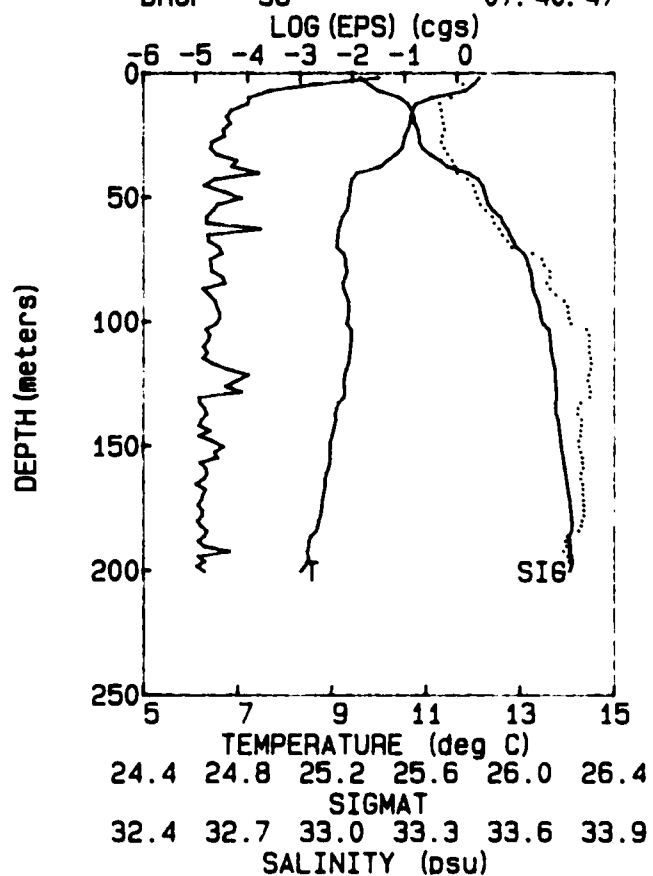
TAPE 151 06-04-87
DROP 34 07: 24: 02



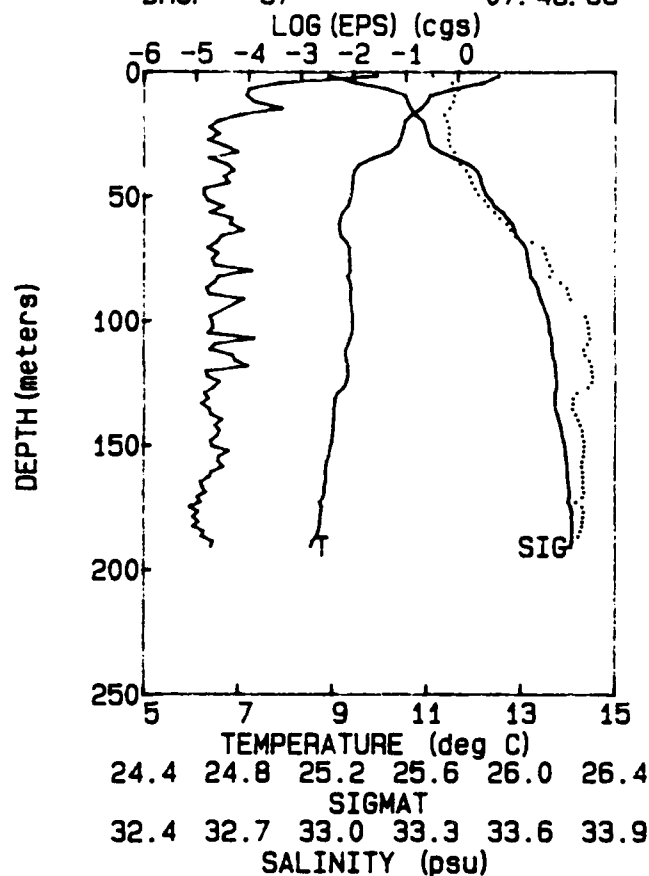
TAPE 151 06-04-87
DROP 35 07: 32: 25



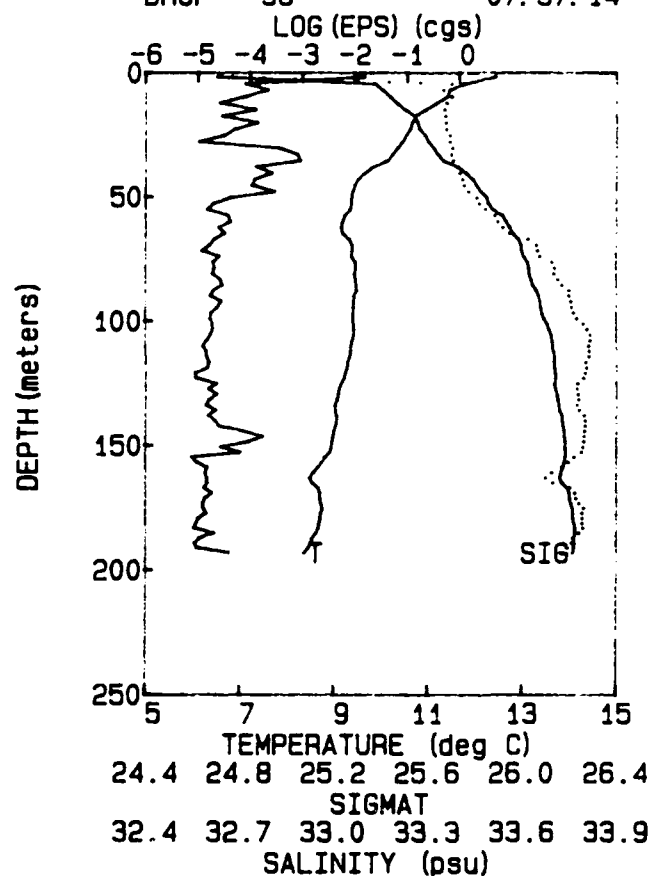
TAPE 151 06-04-87
DROP 36 07: 40: 47



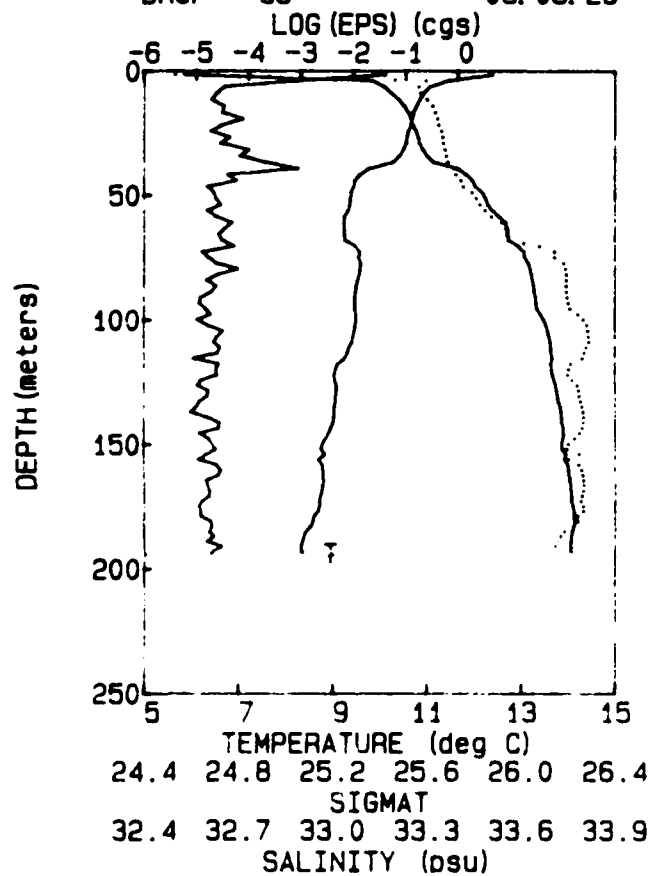
TAPE 151 06-04-87
DROP 37 07: 48: 58



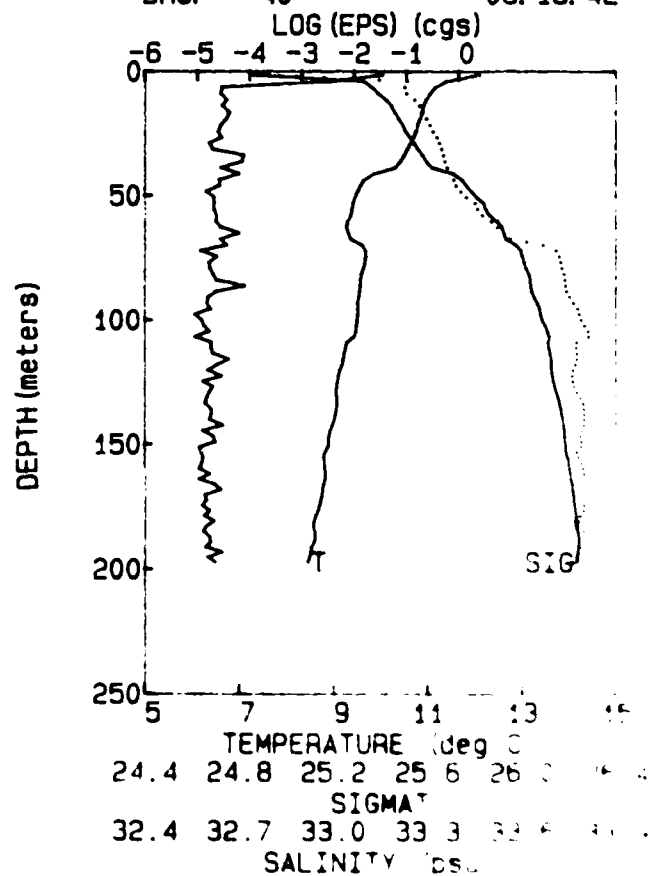
TAPE 151 06-04-87
DROP 38 07: 57: 14



TAPE 151 06-04-87
DROP 39 08: 05: 26



TAPE 151 06-04-87
DROP 40 08: 13: 42



COASTAL TRANSITION ZONE PILOT - 1987 RAPID SAMPLING
VERTICAL PROFILER OB (U) OREGON STATE UNIV CORVALLIS
COLL OF OCEANOGRAPHY M M PARK ET AL JUN 87 DATA-135
N00014-87-K-0242 F/G 8/3

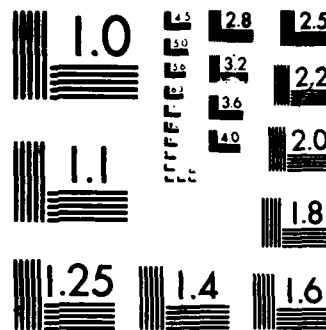
NL

UNCLASSIFIED

NO0014-87-K-0242

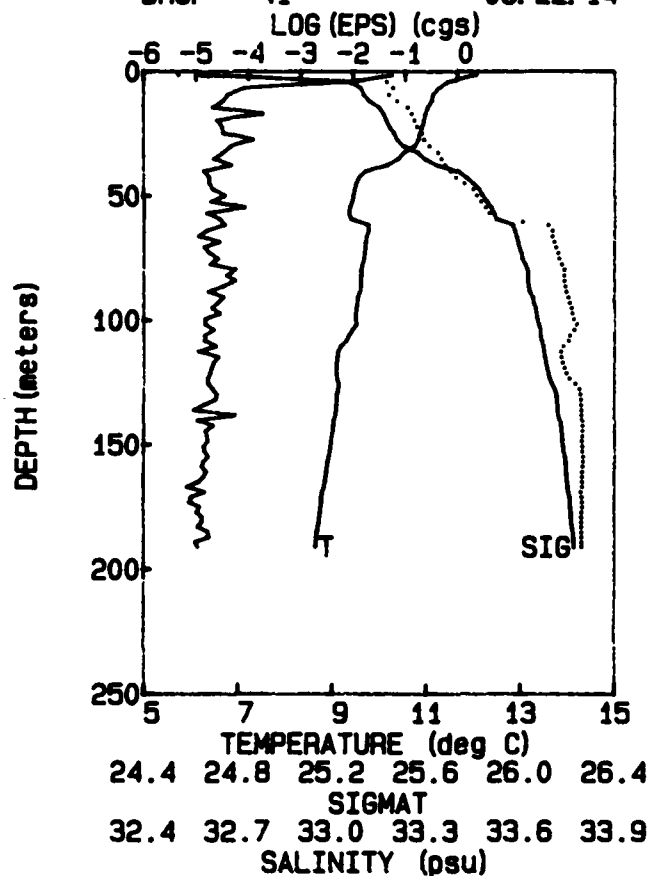
F/G 8/3

A 10x10 grid of squares, with the top-left square missing, representing a 10x10 grid with a 1x1 hole.

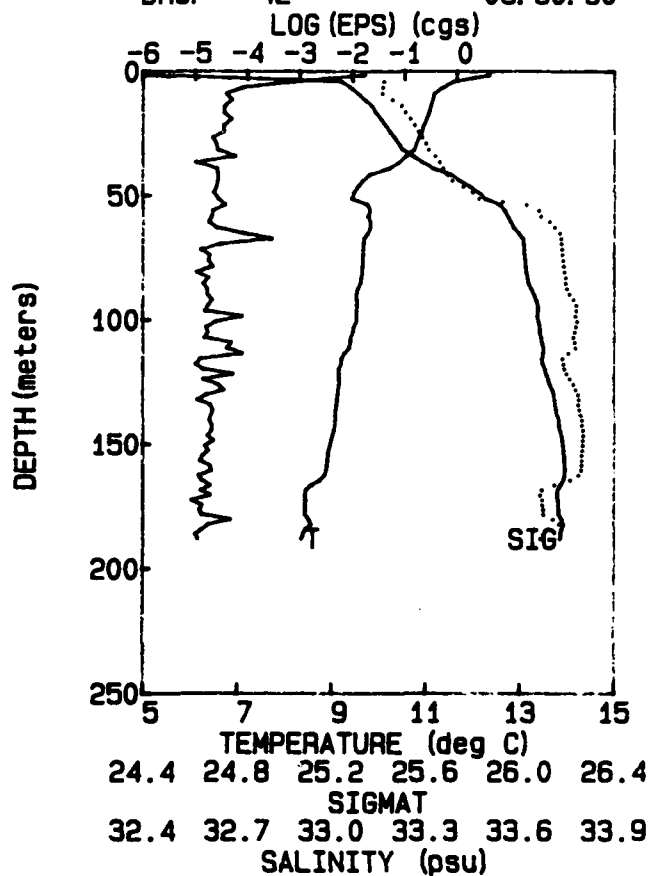


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

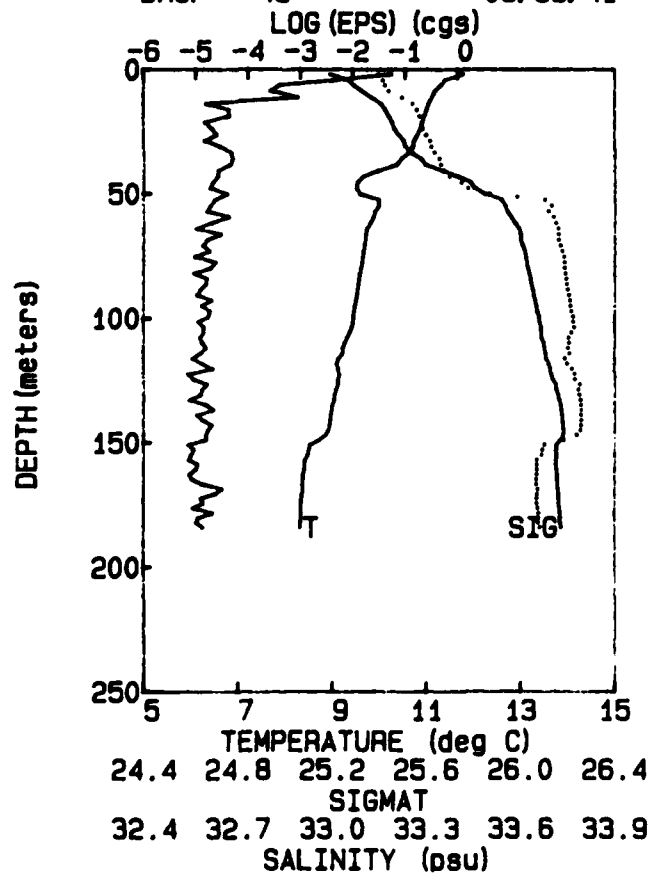
TAPE 151 06-04-87
DROP 41 08: 22: 14



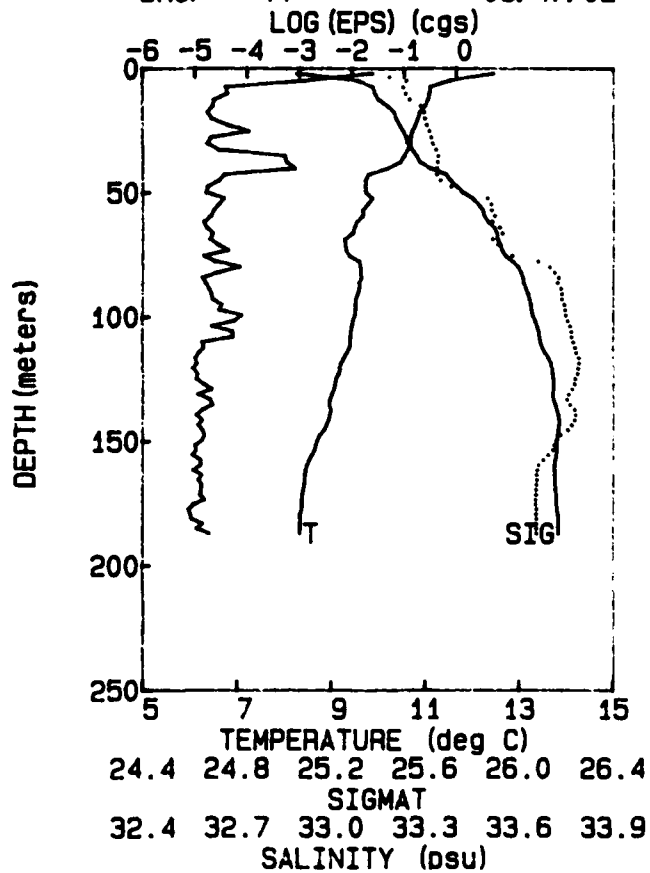
TAPE 151 06-04-87
DROP 42 08: 30: 30



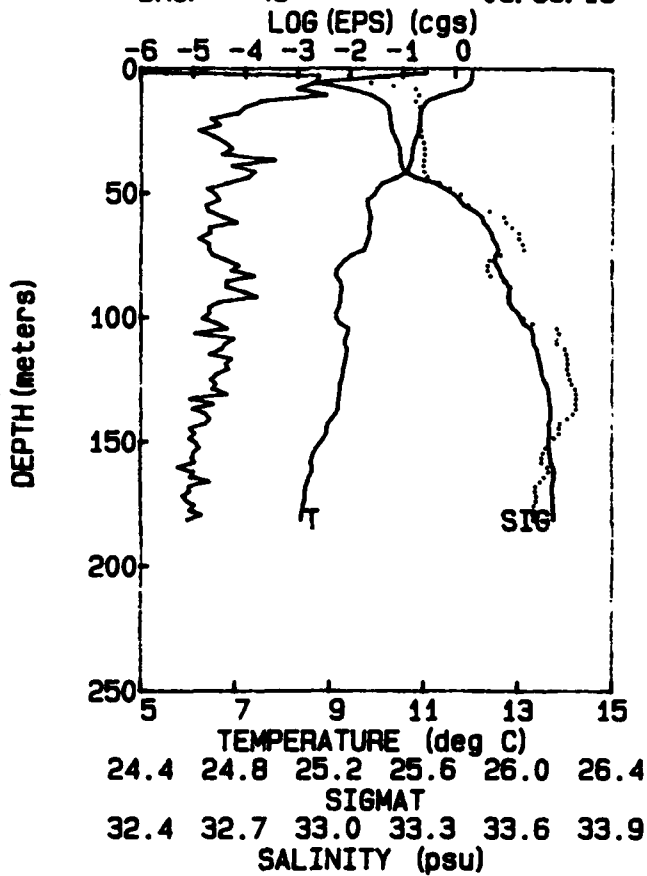
TAPE 151 06-04-87
DROP 43 08: 38: 41



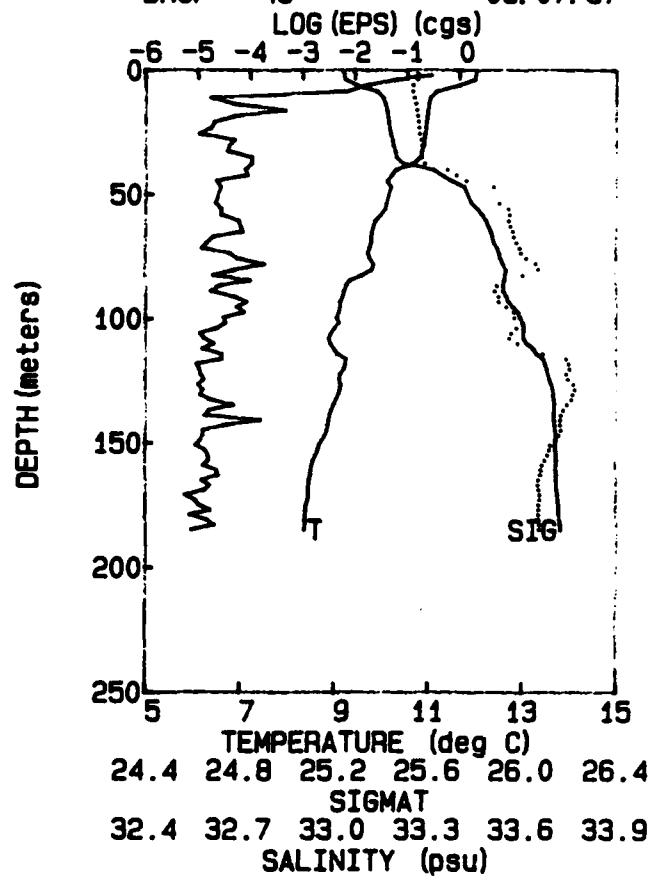
TAPE 151 06-04-87
DROP 44 08: 47: 02



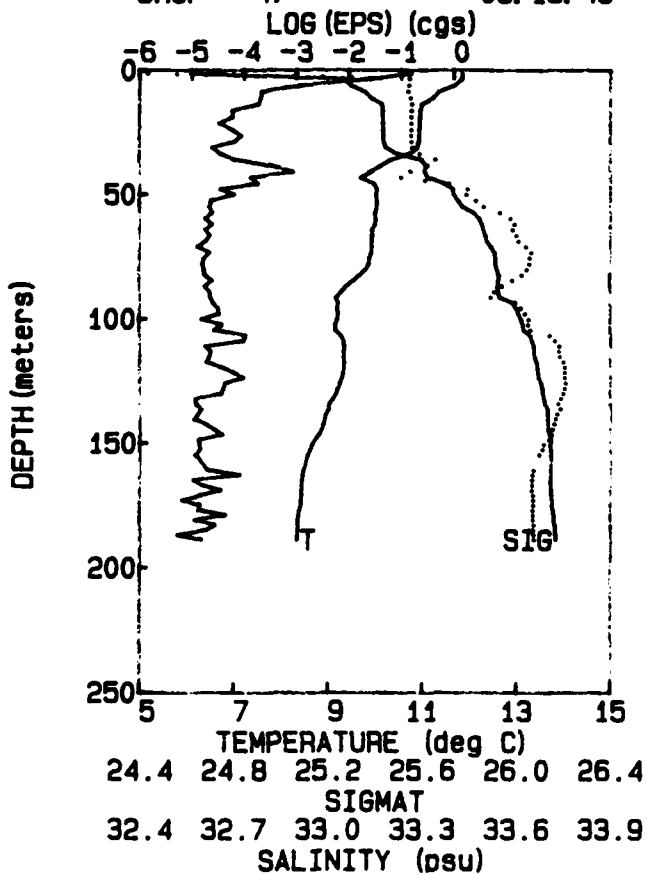
TAPE 151 06-04-87
DROP 45 08: 59: 13



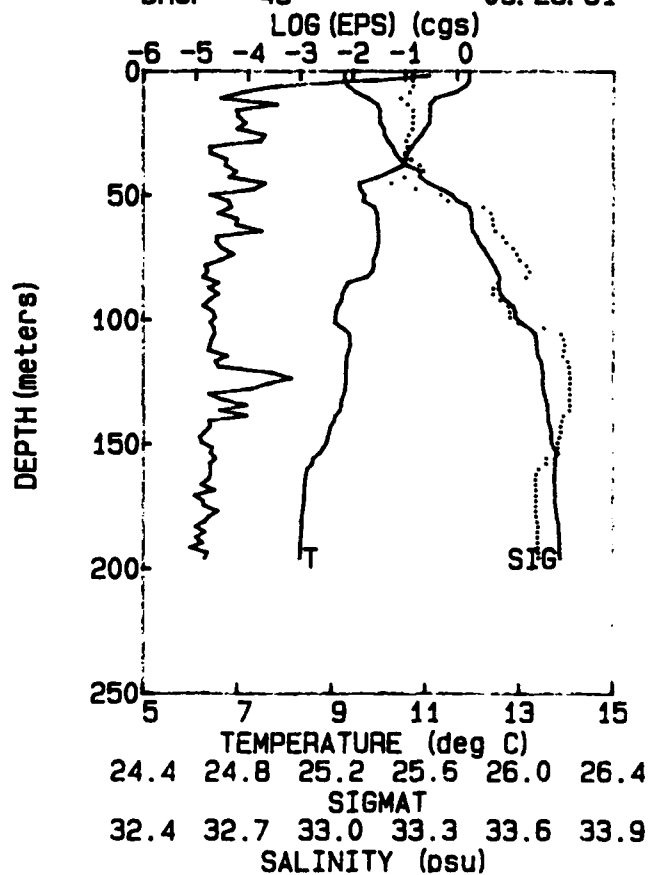
TAPE 151 06-04-87
DROP 46 09: 07: 37

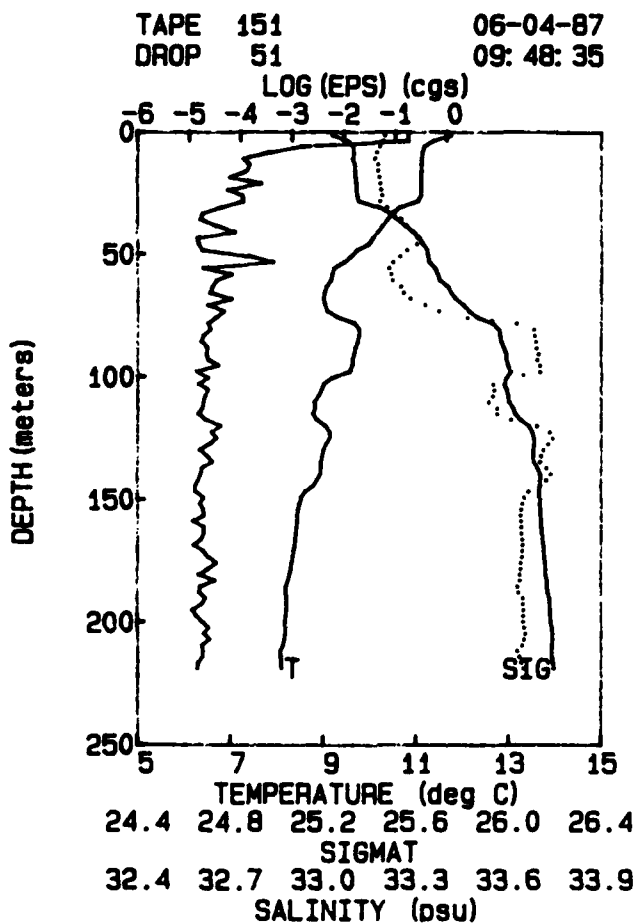
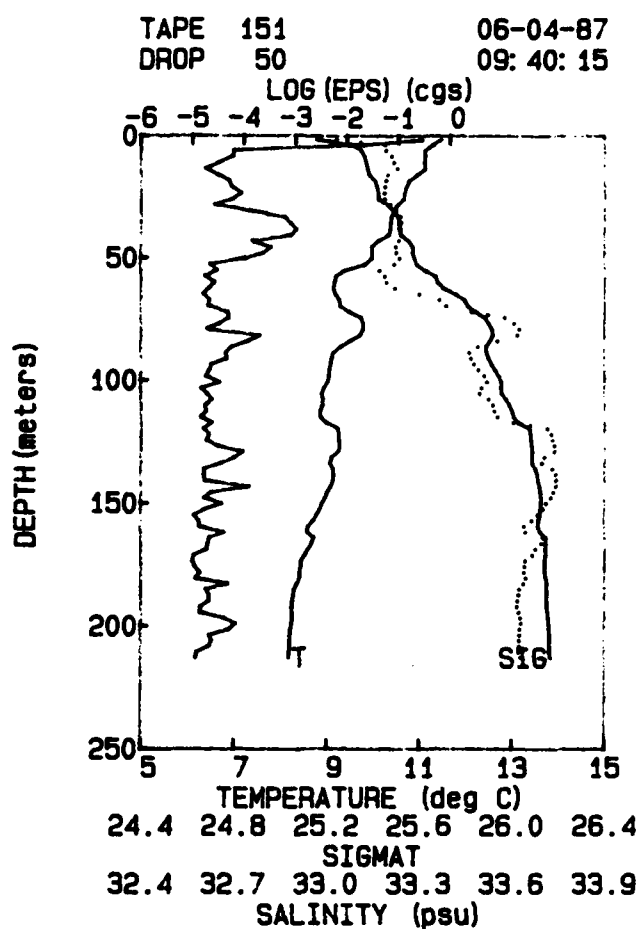
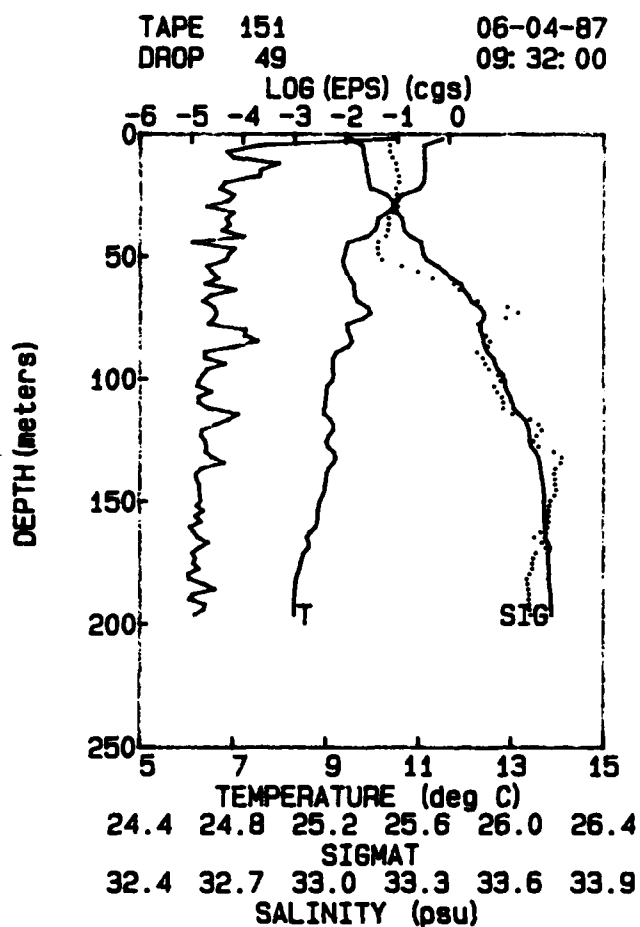


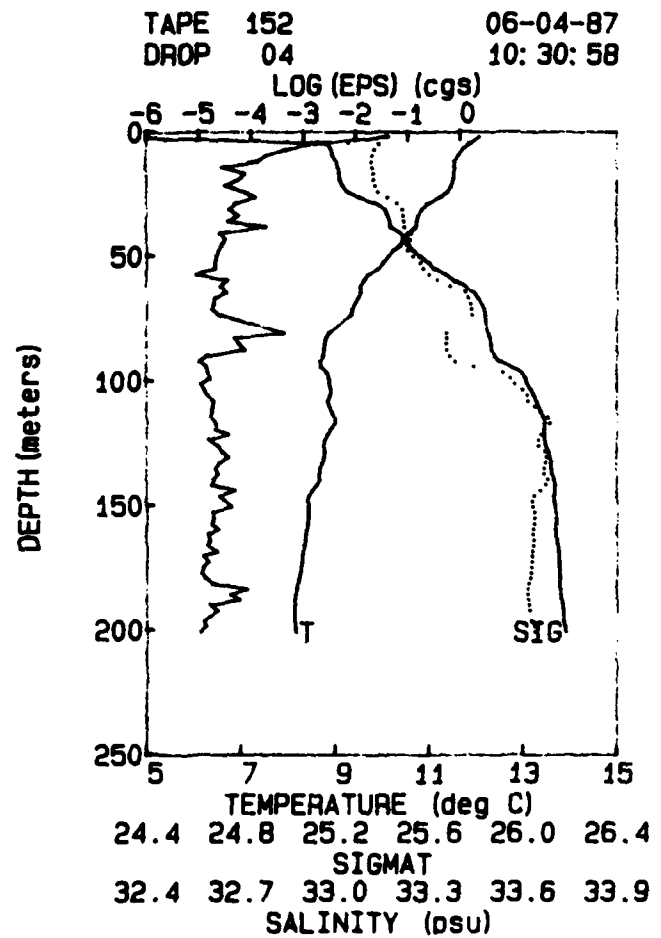
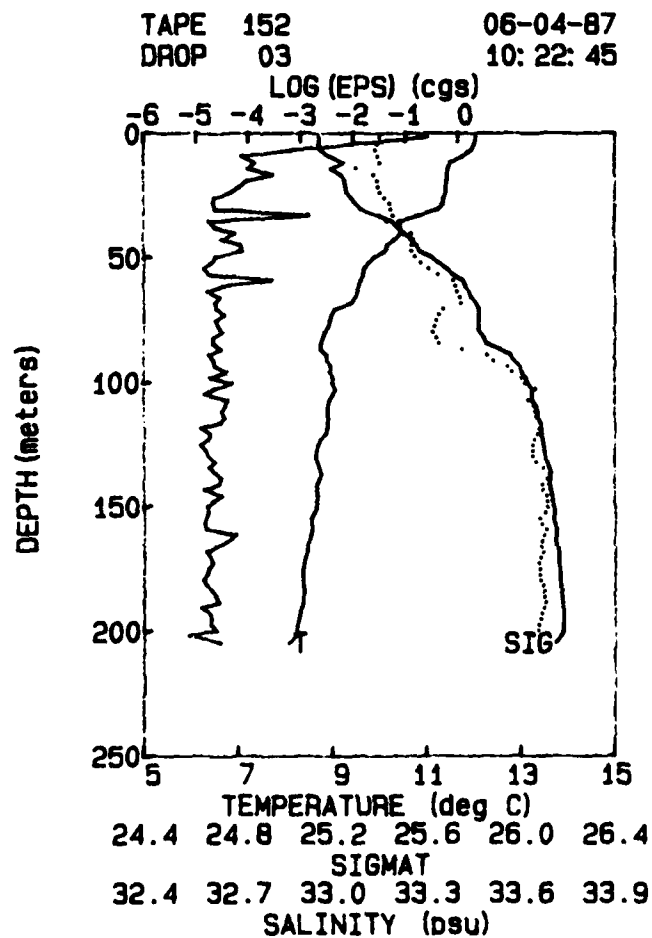
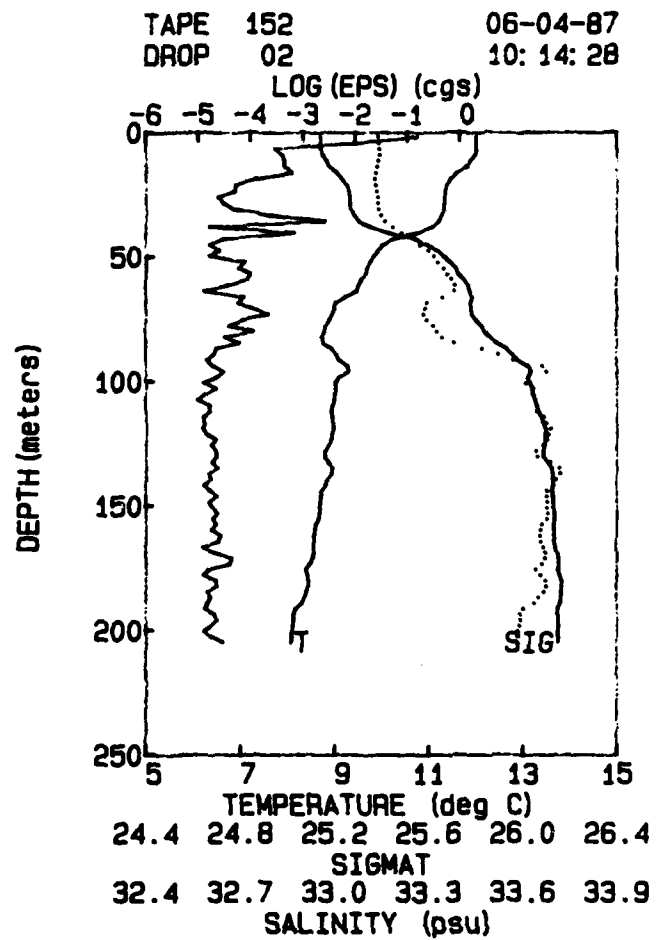
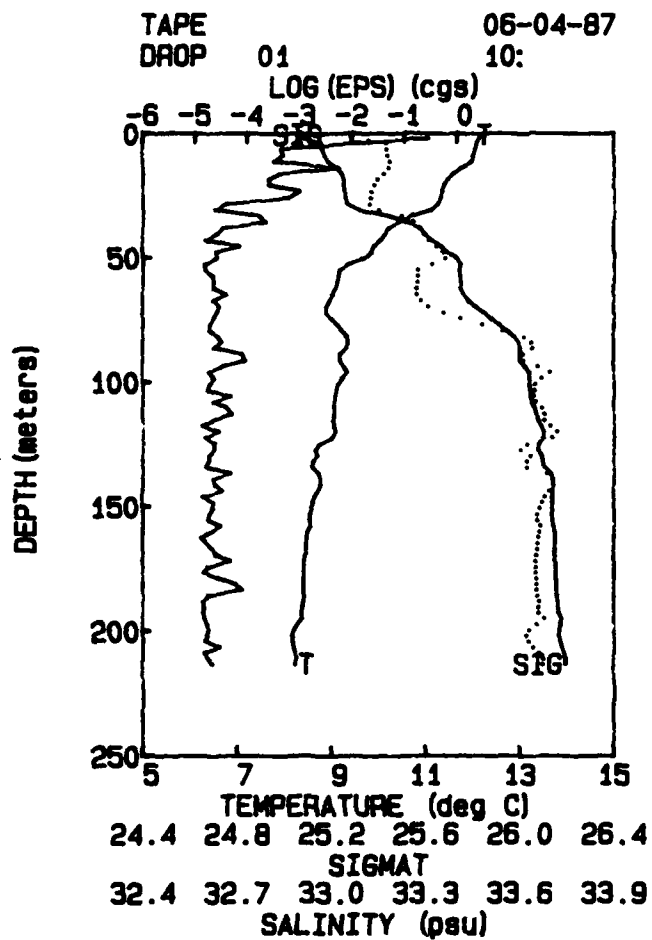
TAPE 151 06-04-87
DROP 47 09: 15: 49



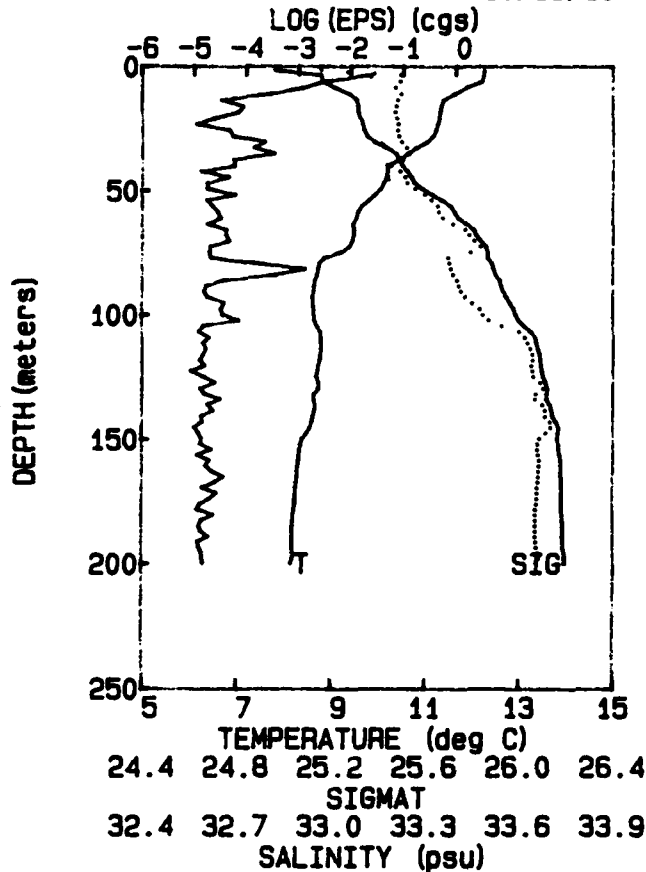
TAPE 151 06-04-87
DROP 48 09: 23: 51



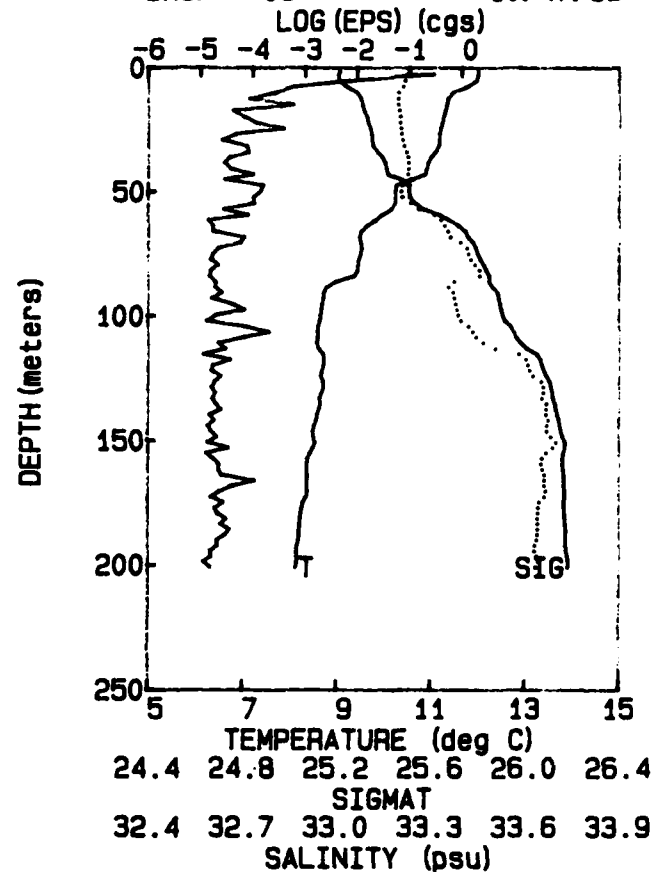




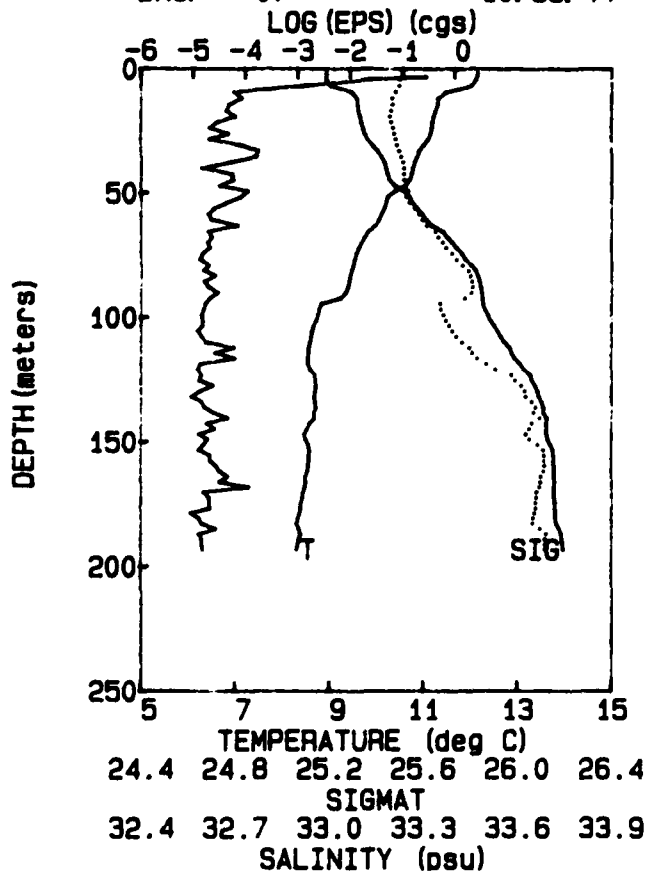
TAPE 152 06-04-87
DROP 05 10: 39: 10



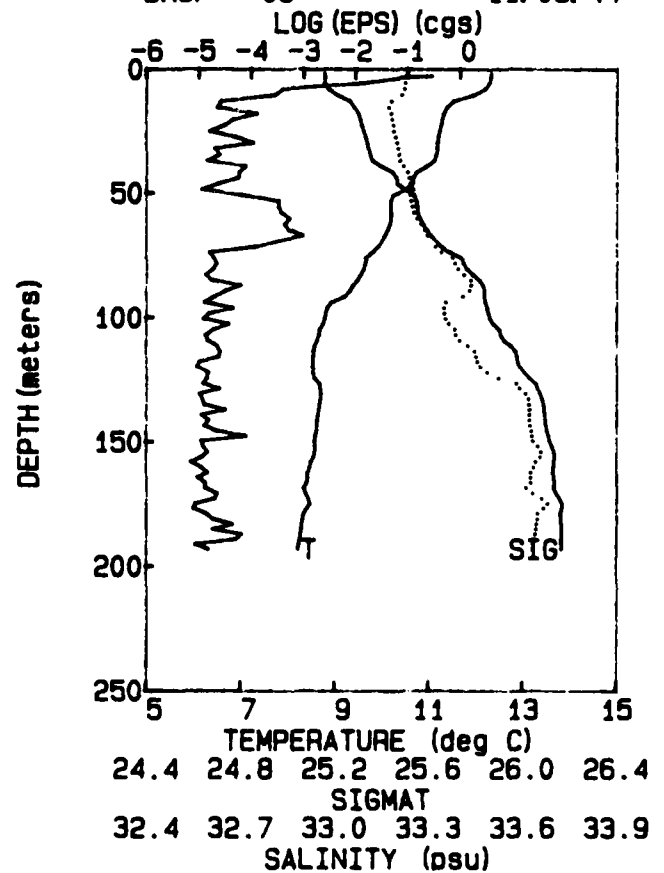
TAPE 152 06-04-87
DROP 06 10: 47: 38

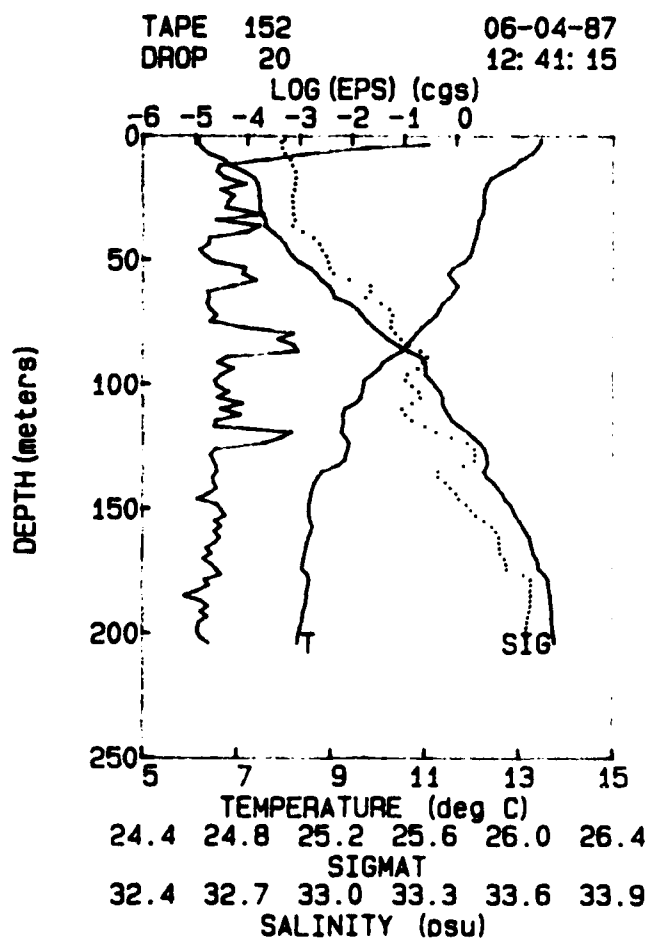
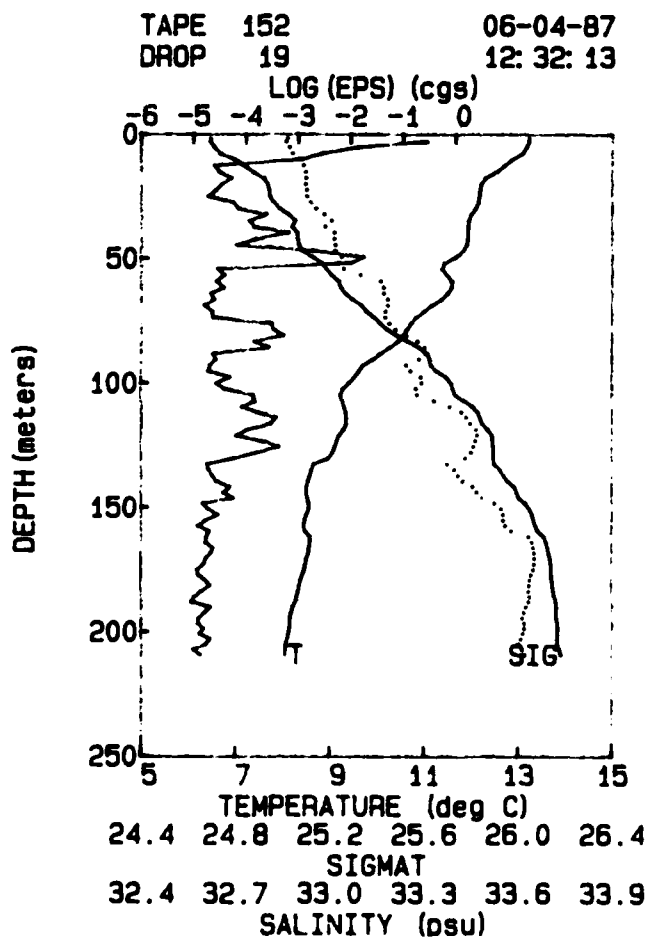
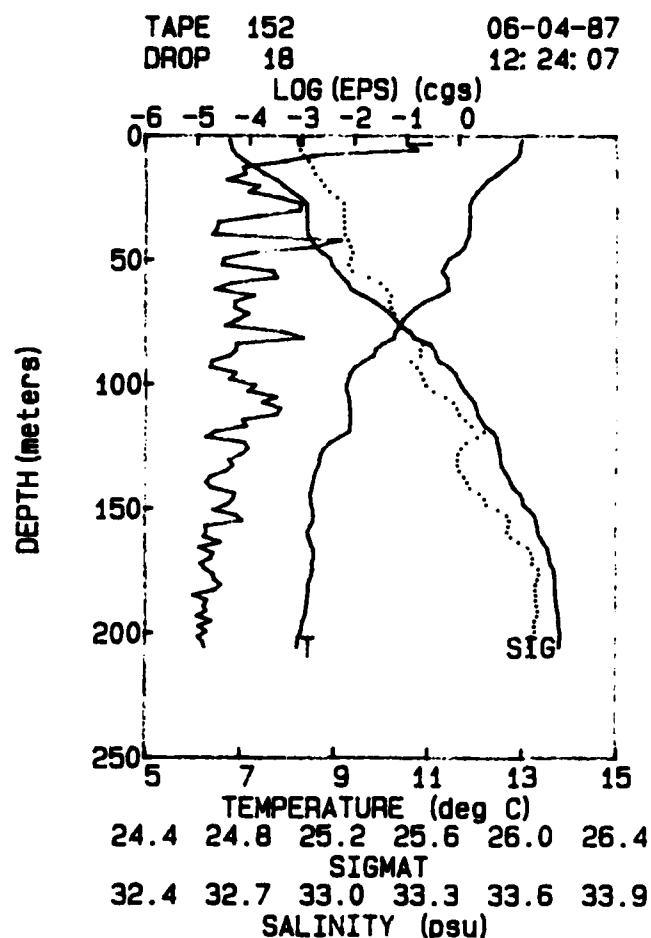
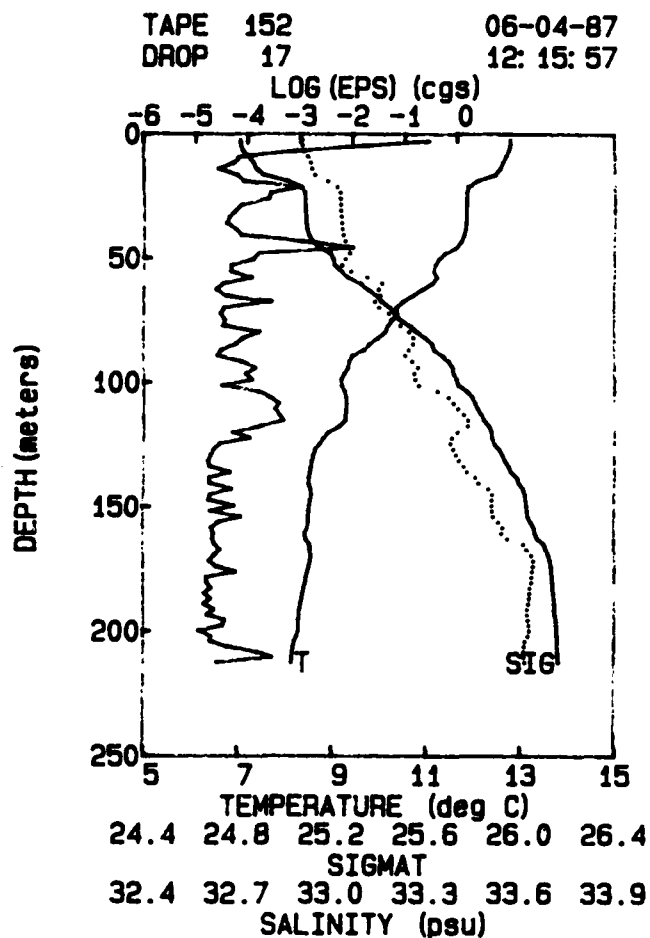


TAPE 152 06-04-87
DROP 07 10: 55: 44

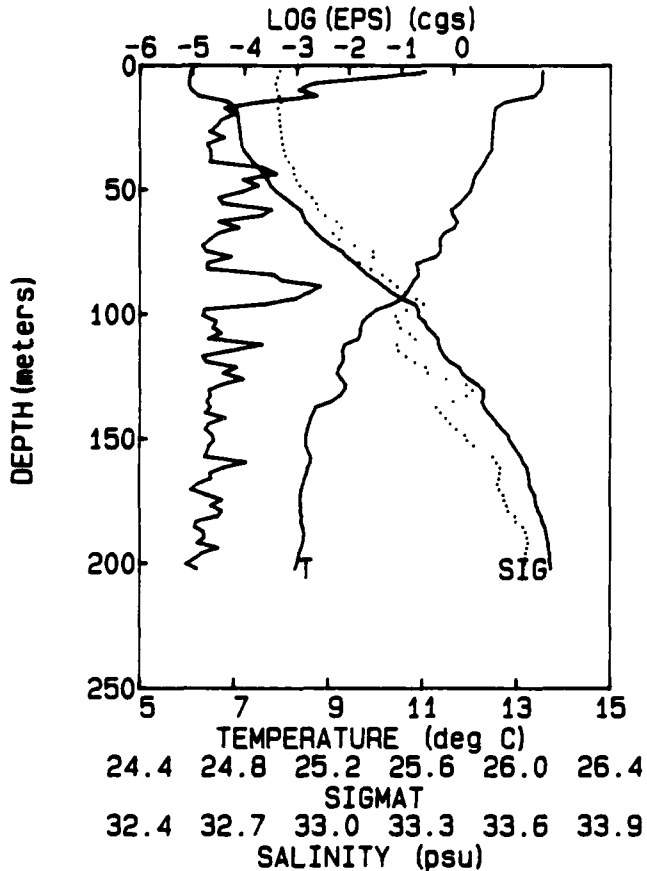


TAPE 152 06-04-87
DROP 08 11: 03: 44

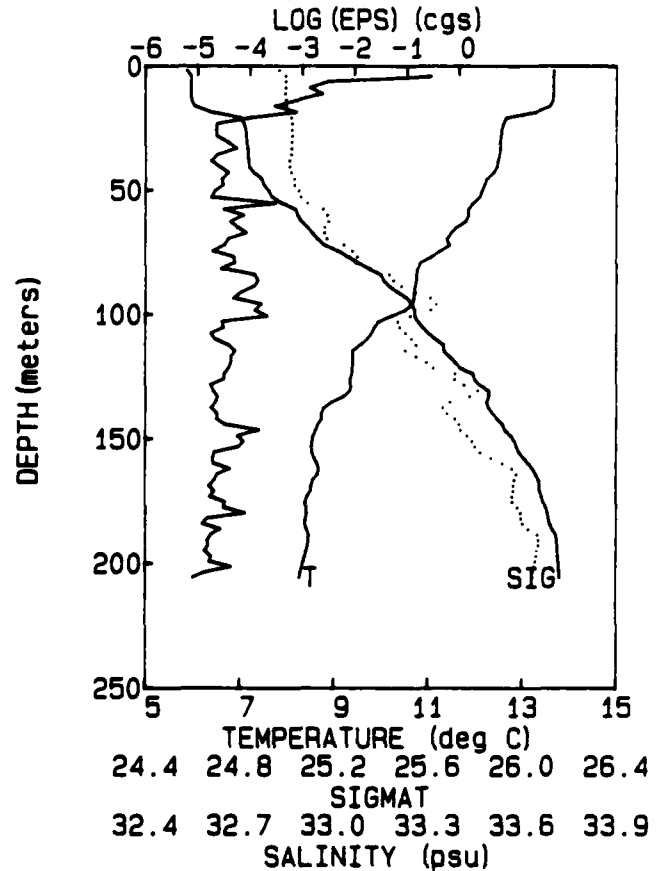




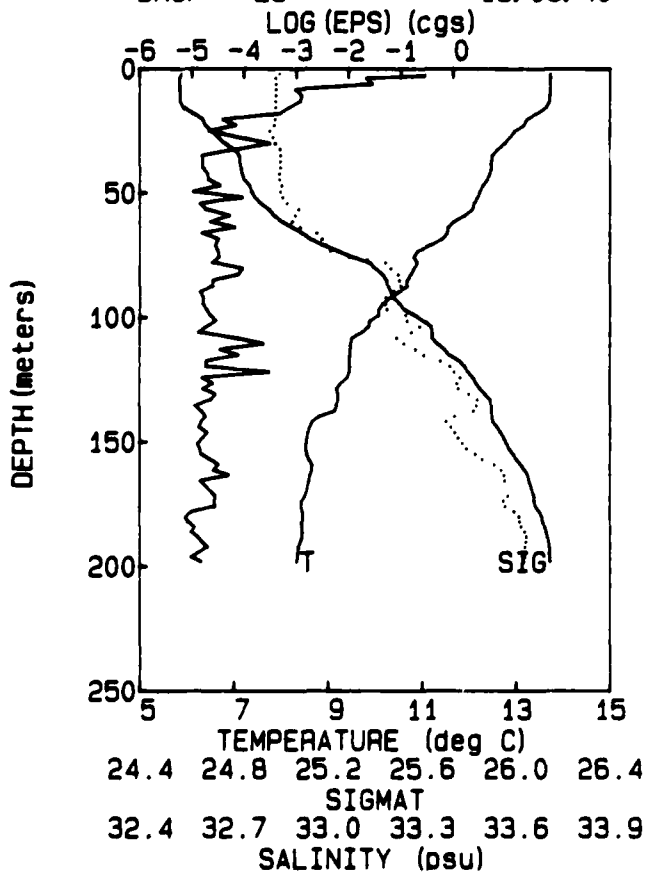
TAPE 152 06-04-87
DROP 21 12: 49: 28



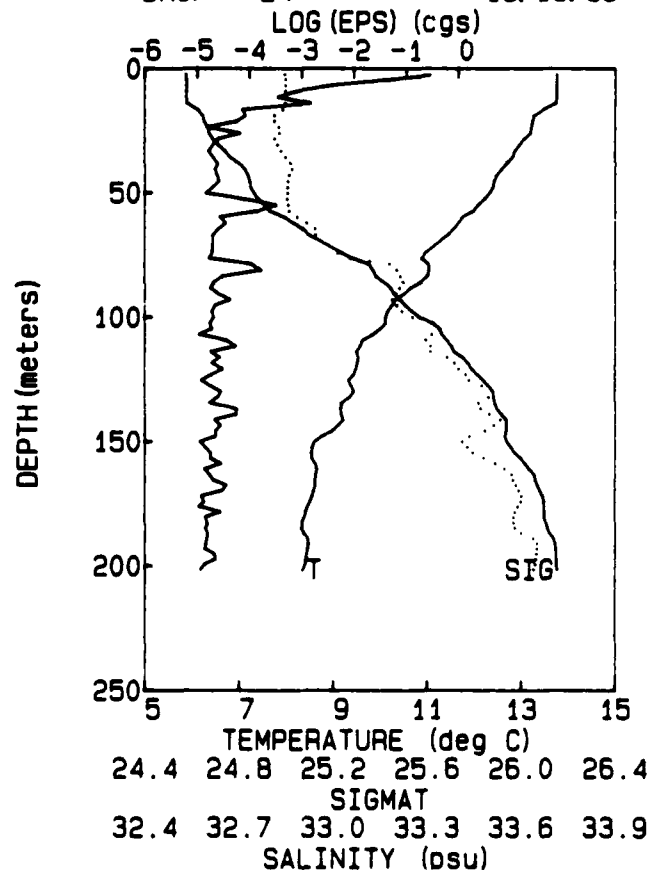
TAPE 152 06-04-87
DROP 22 12: 57: 26

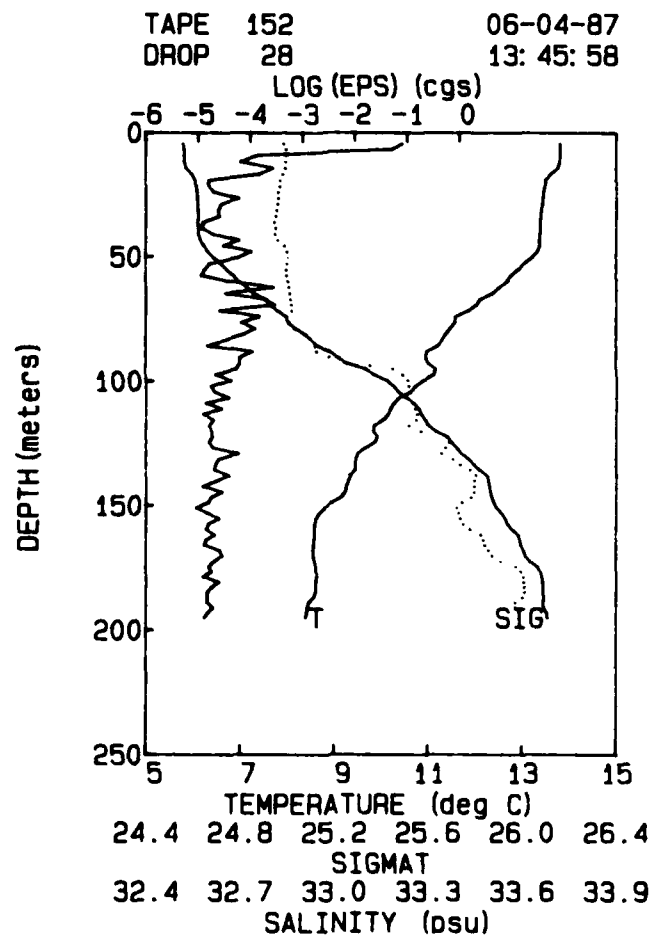
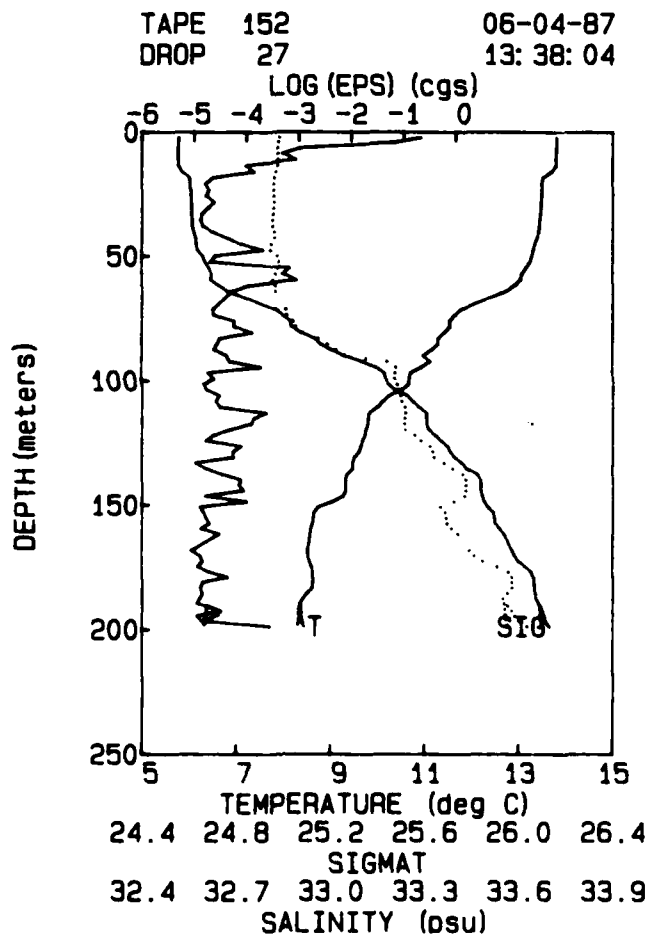
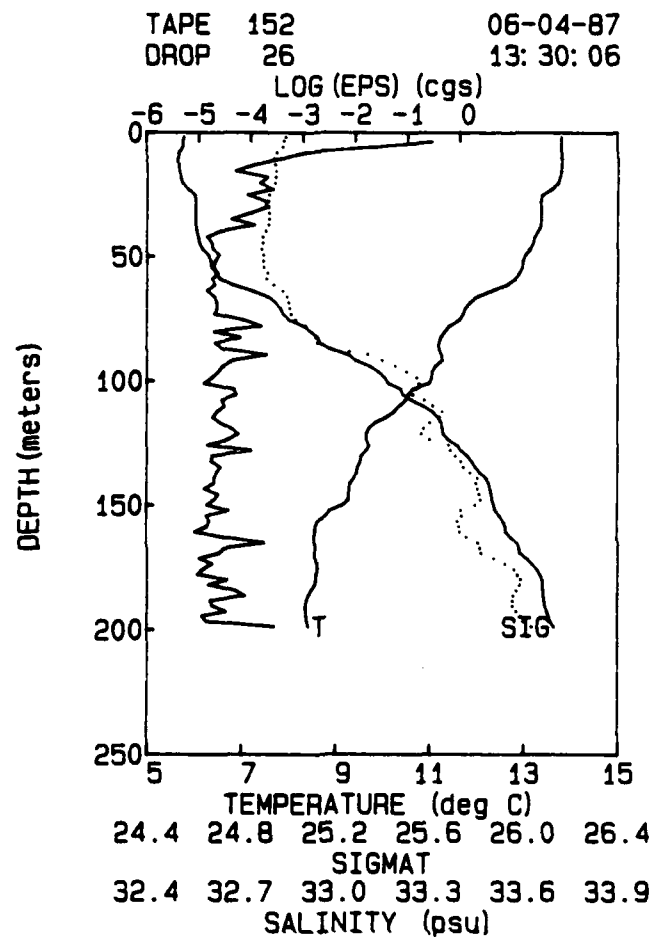
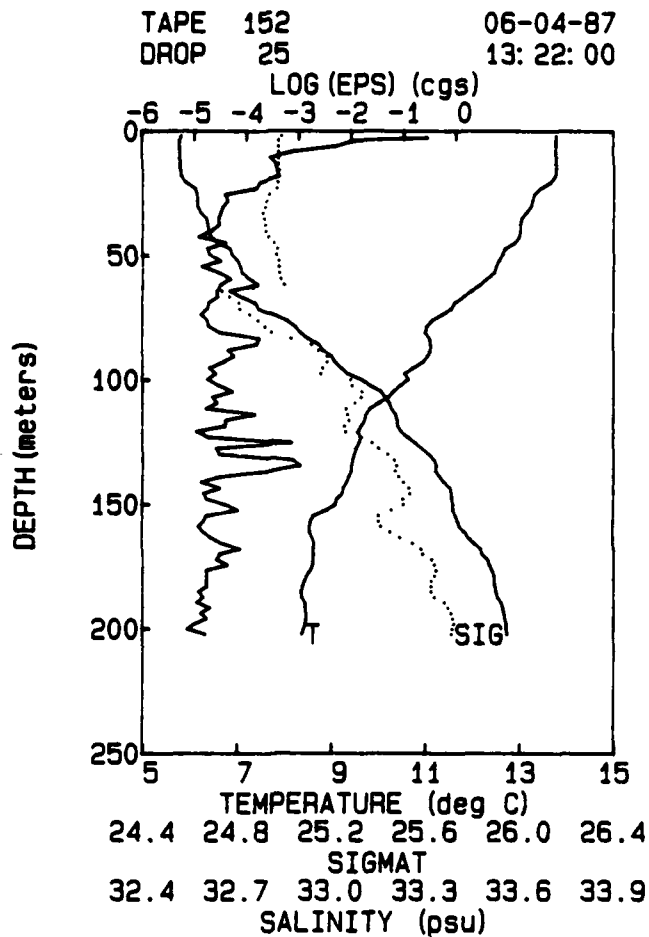


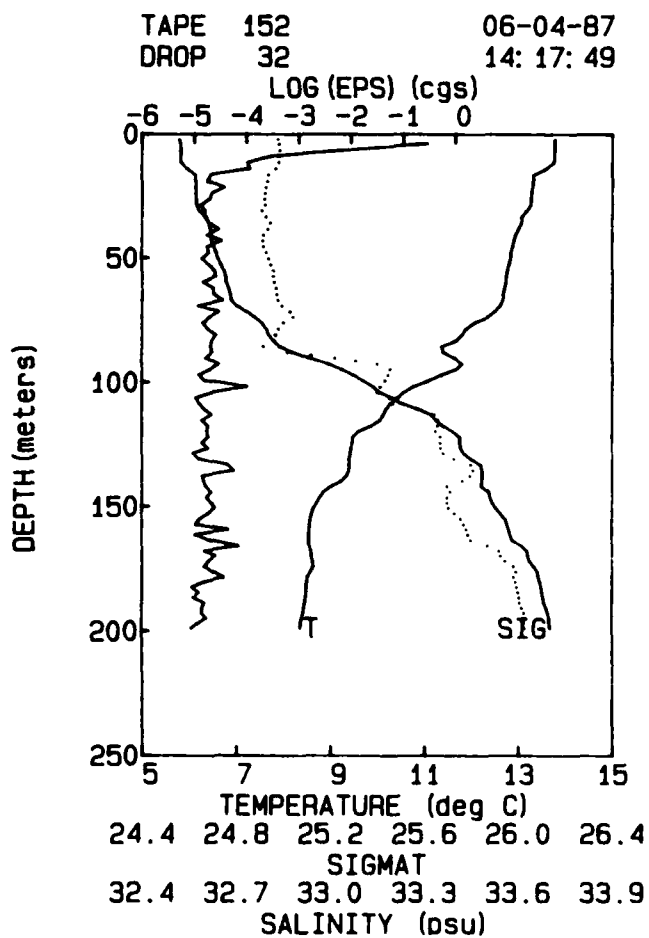
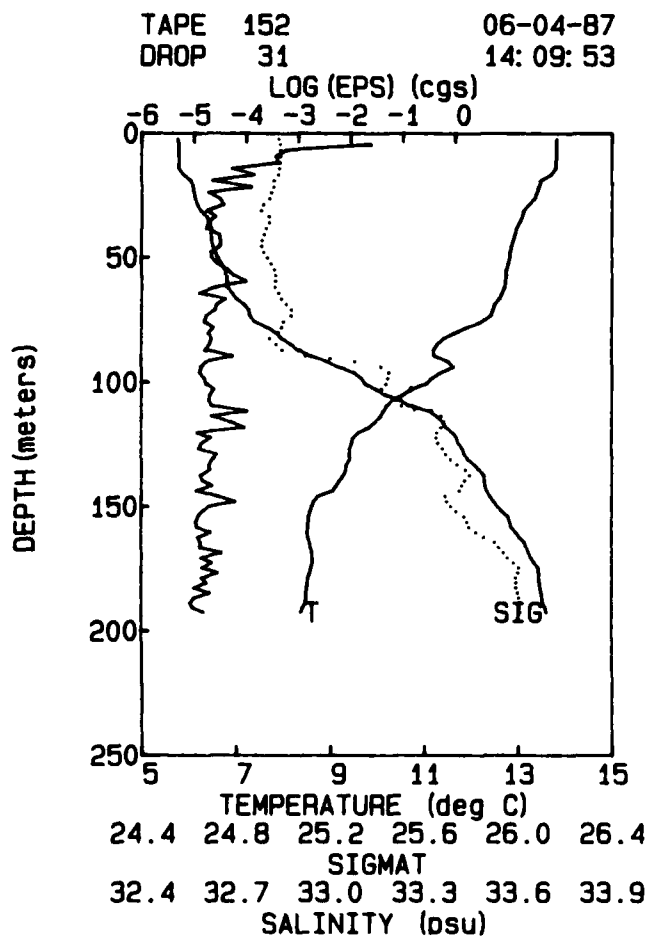
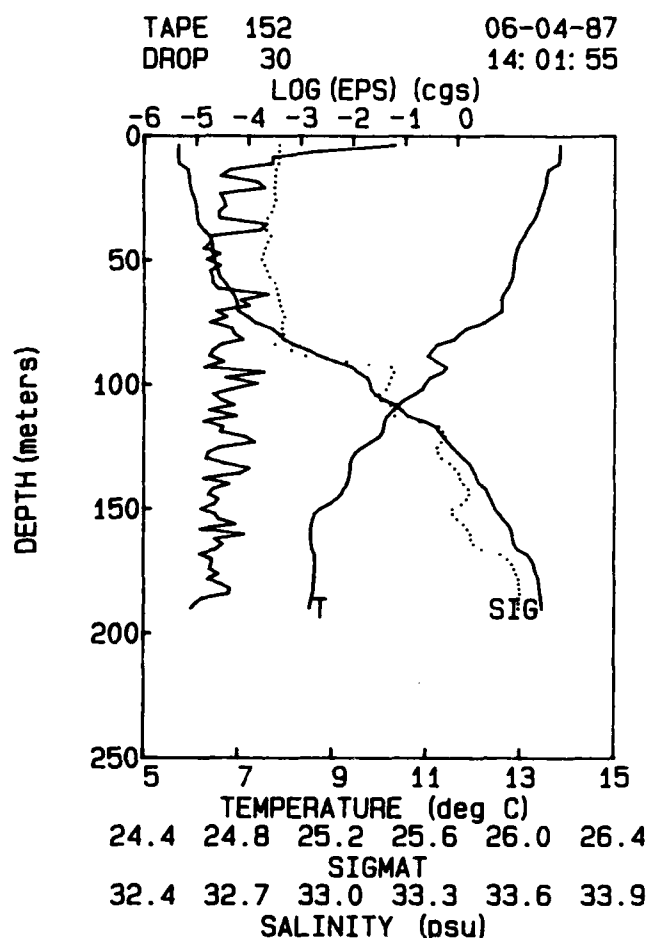
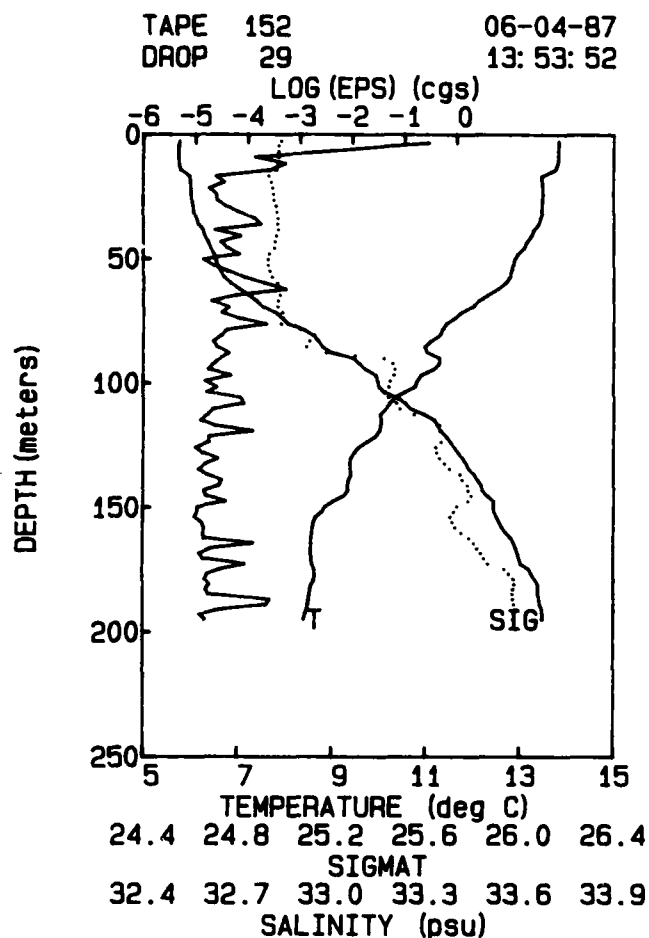
TAPE 152 06-04-87
DROP 23 13: 05: 40



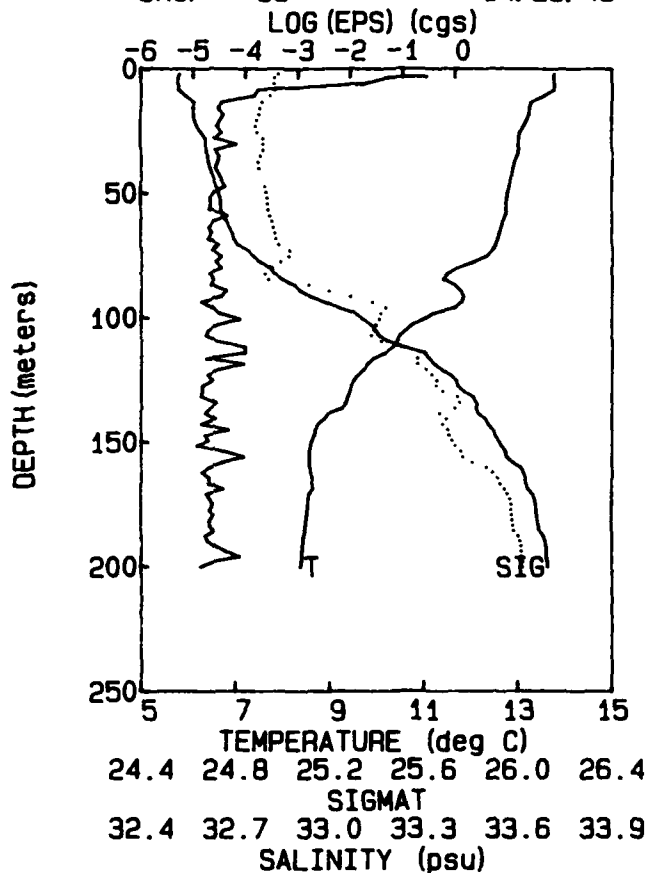
TAPE 152 06-04-87
DROP 24 13: 13: 36



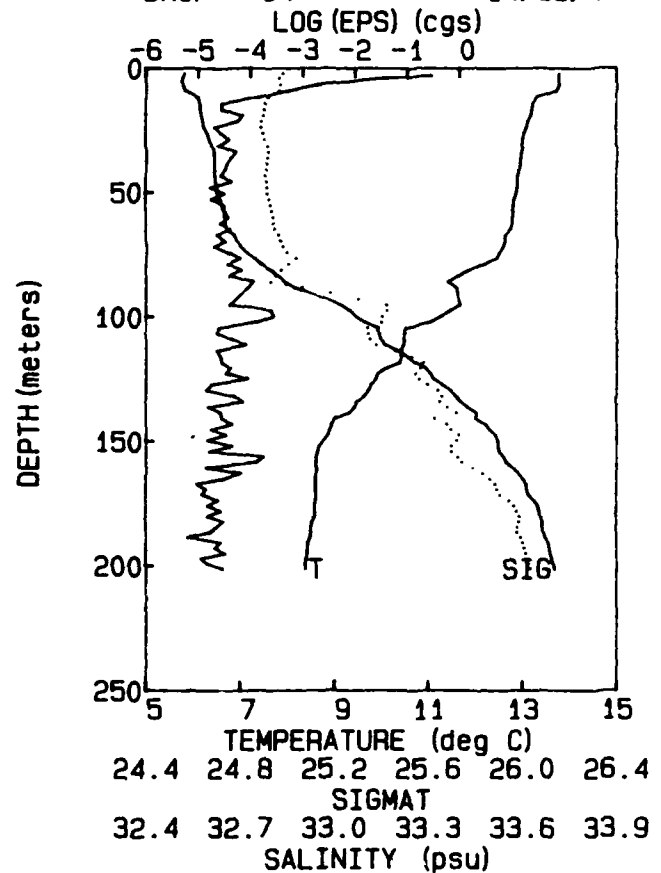




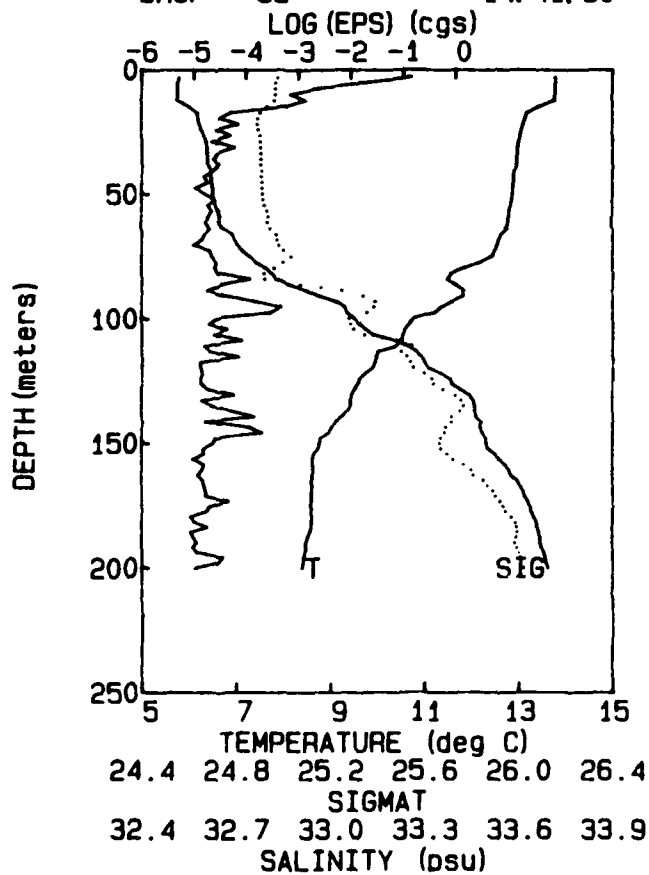
TAPE 152 06-04-87
DROP 33 14: 25: 45



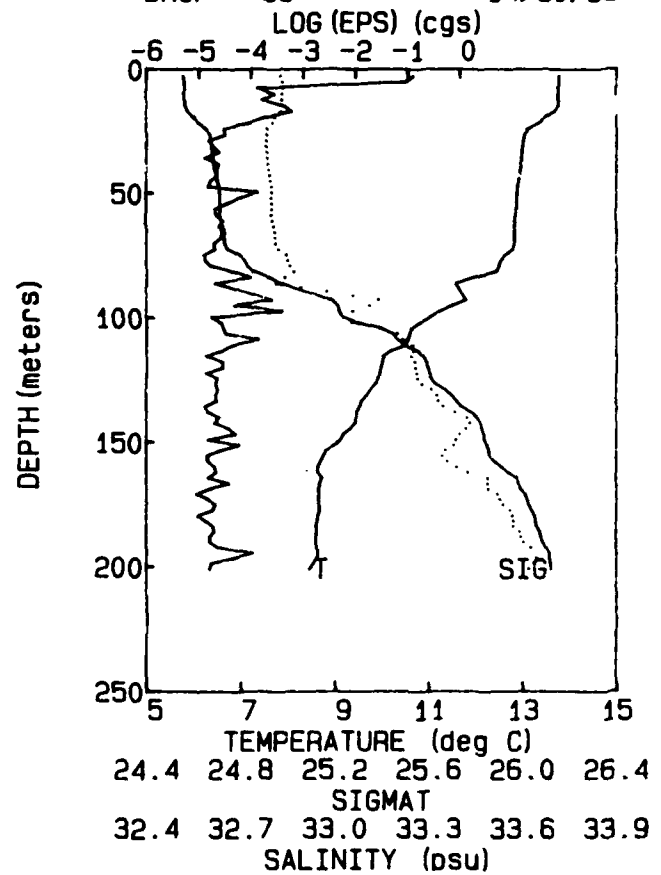
TAPE 152 06-04-87
DROP 34 14: 33: 44



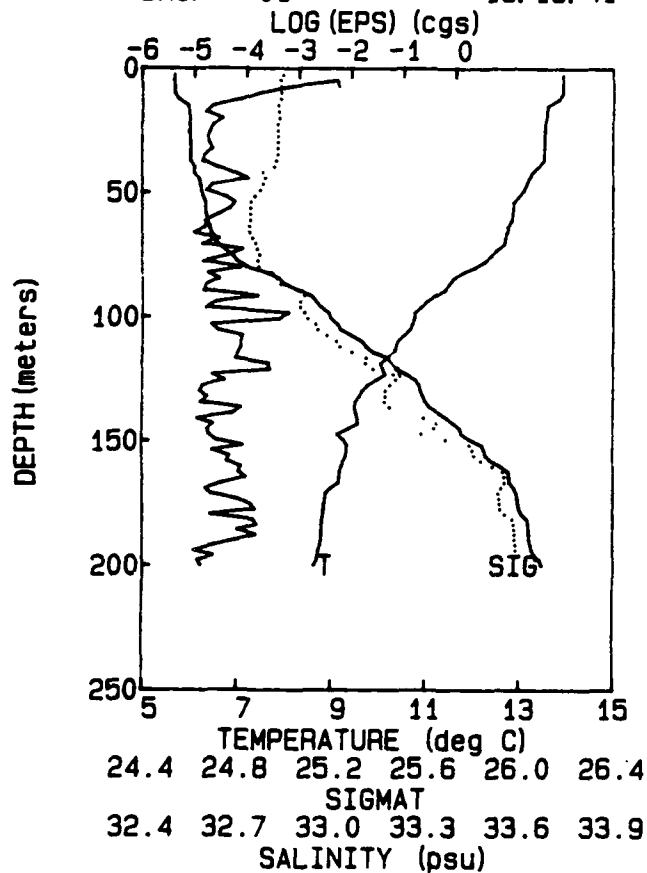
TAPE 152 06-04-87
DROP 35 14: 41: 50



TAPE 152 06-04-87
DROP 36 14: 50: 35

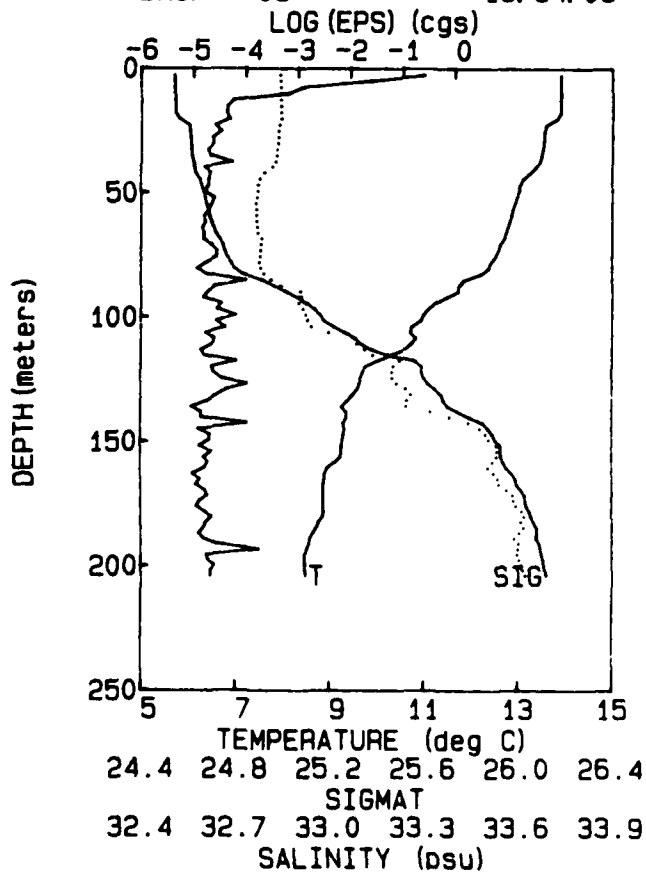


TAPE 153 06-04-87
 DROP 01 16:19:41

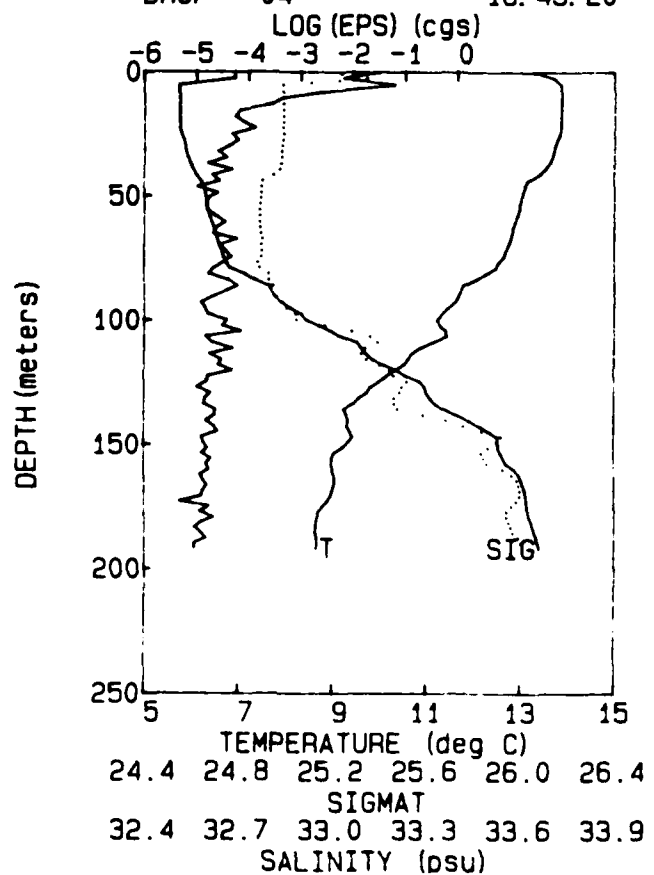


DEPTH (meters)

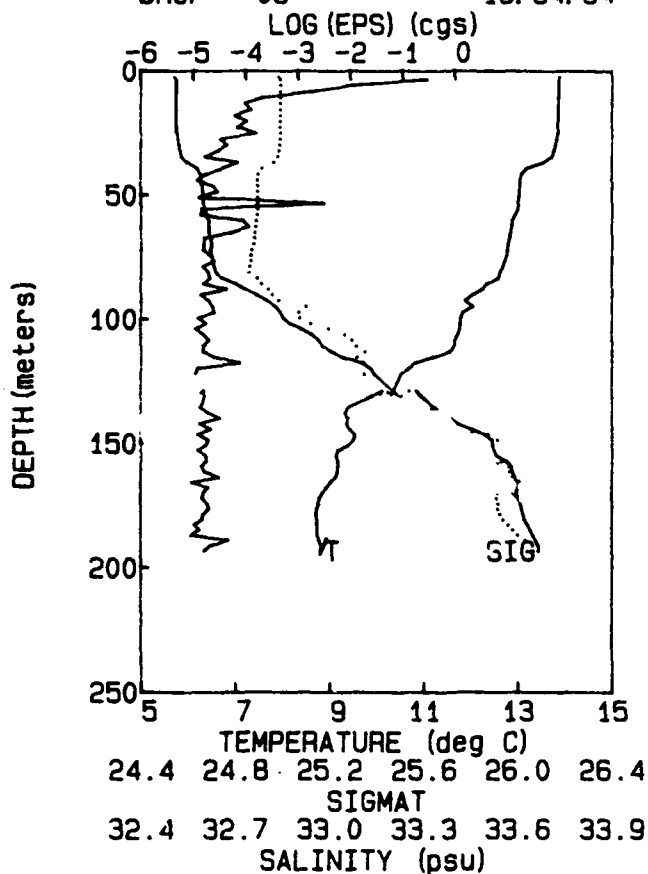
TAPE 153 06-04-87
 DROP 03 16:34:09



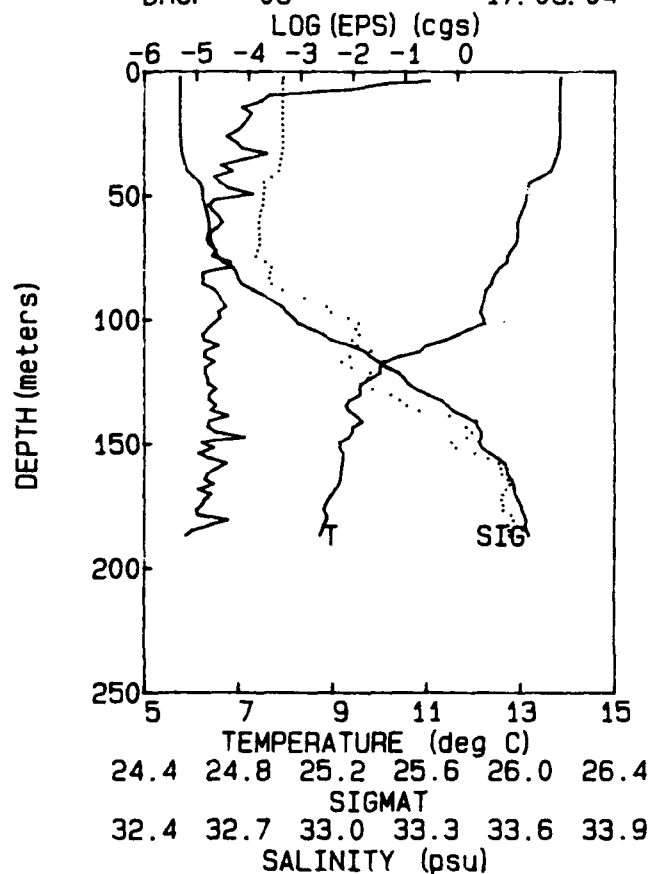
TAPE 153 06-04-87
 DROP 04 16:45:20



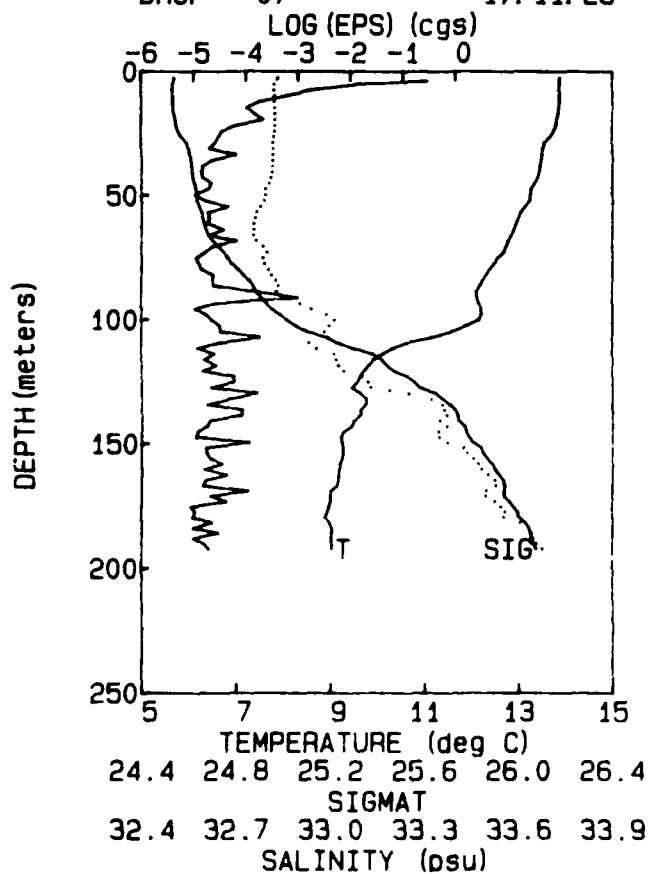
TAPE 153 06-04-87
DROP 05 16: 54: 54



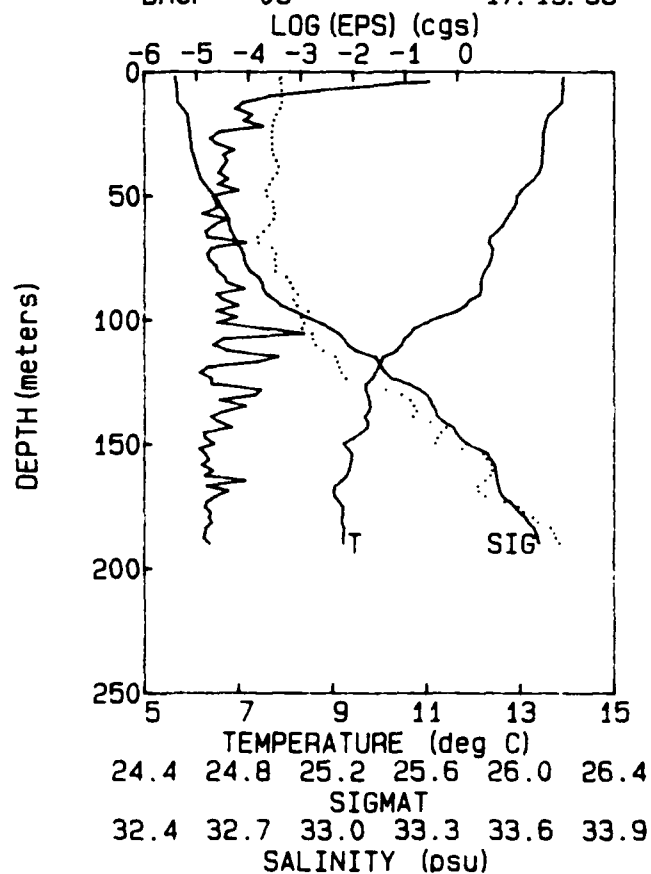
TAPE 153 06-04-87
DROP 06 17: 03: 04

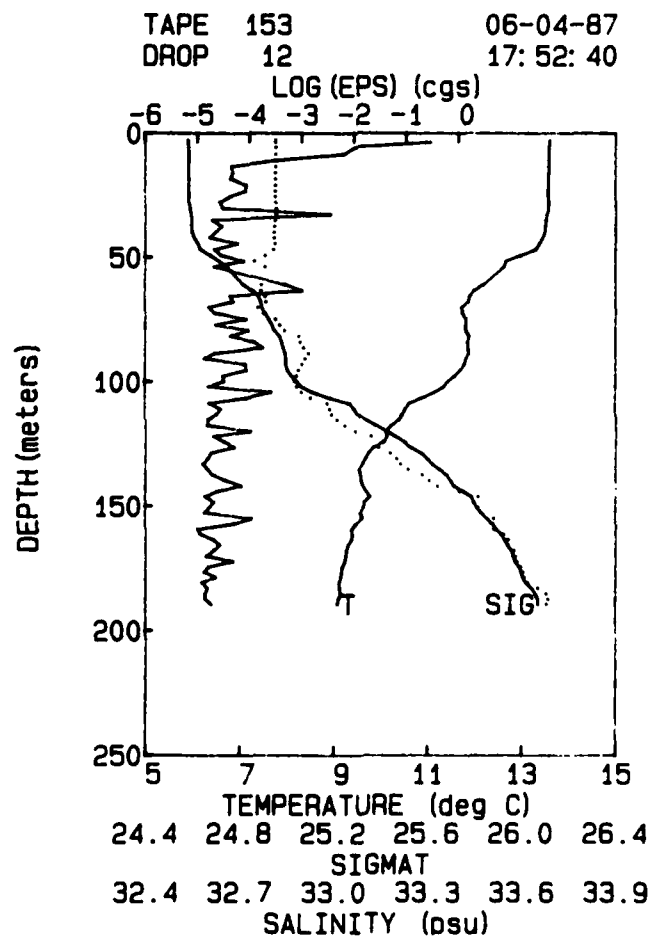
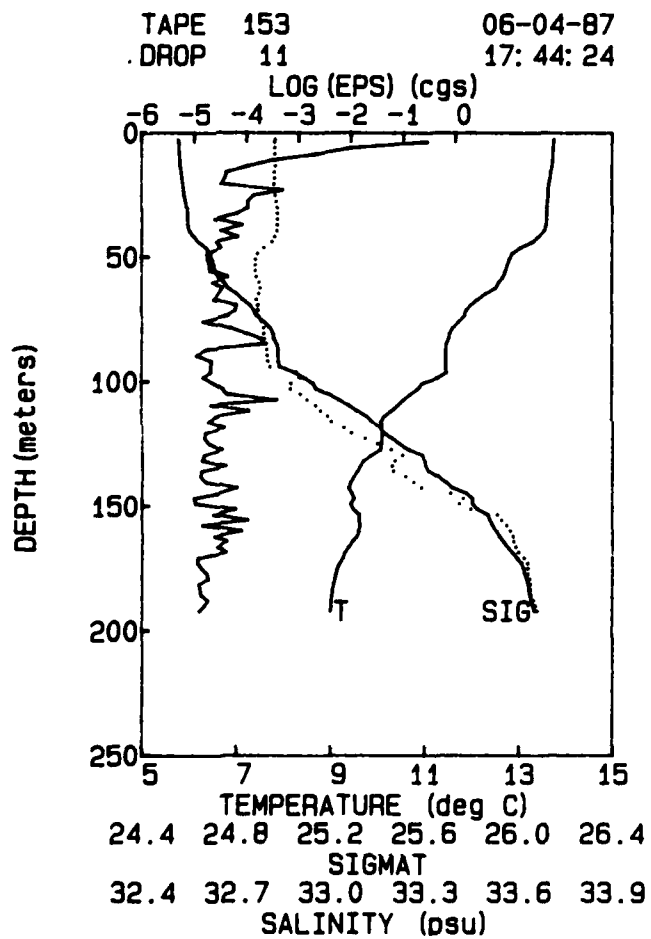
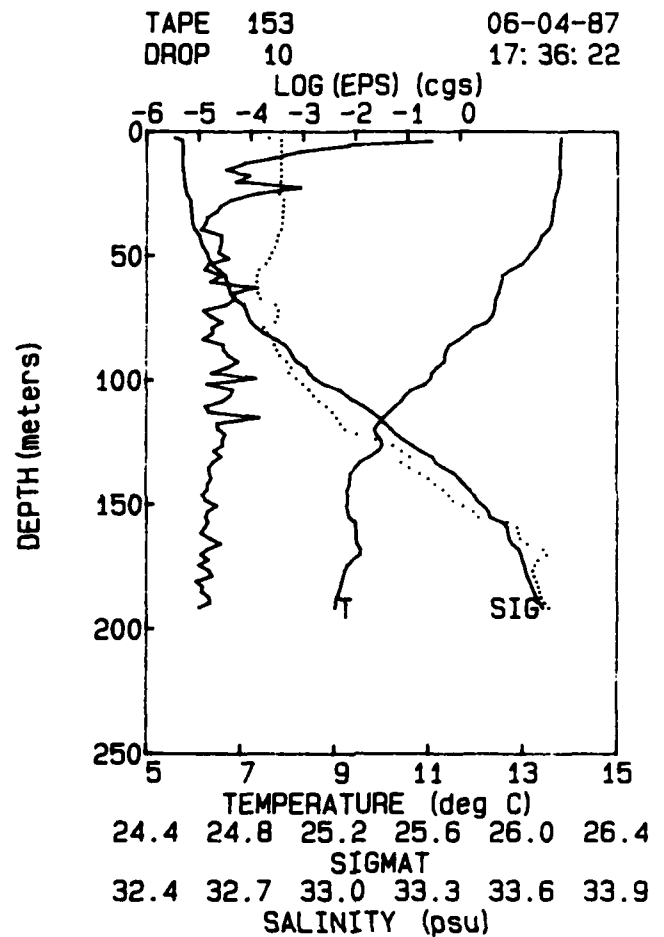
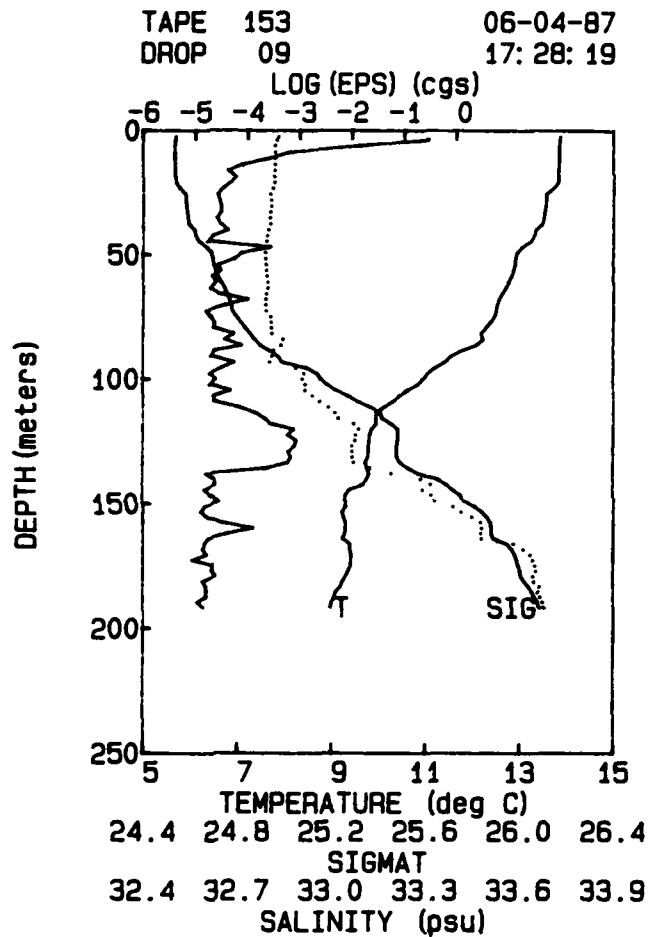


TAPE 153 06-04-87
DROP 07 17: 11: 23

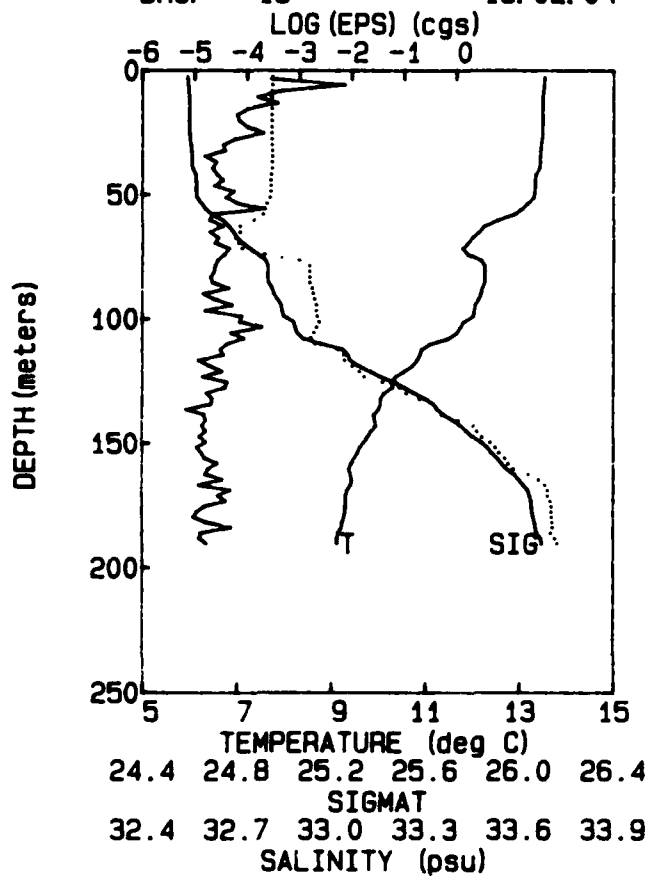


TAPE 153 06-04-87
DROP 08 17: 19: 33

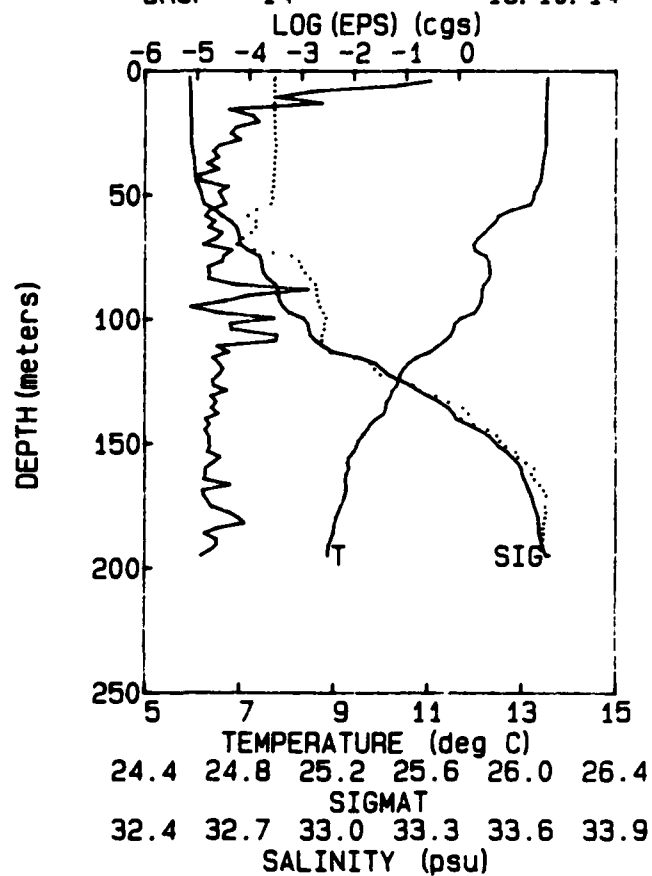




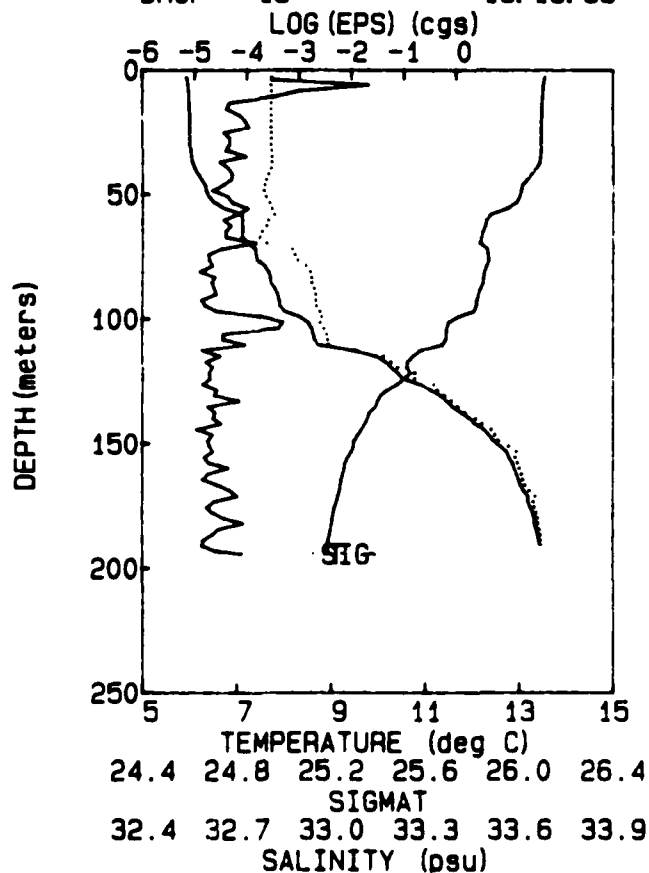
TAPE 153 06-04-87
DROP 13 18:02:04



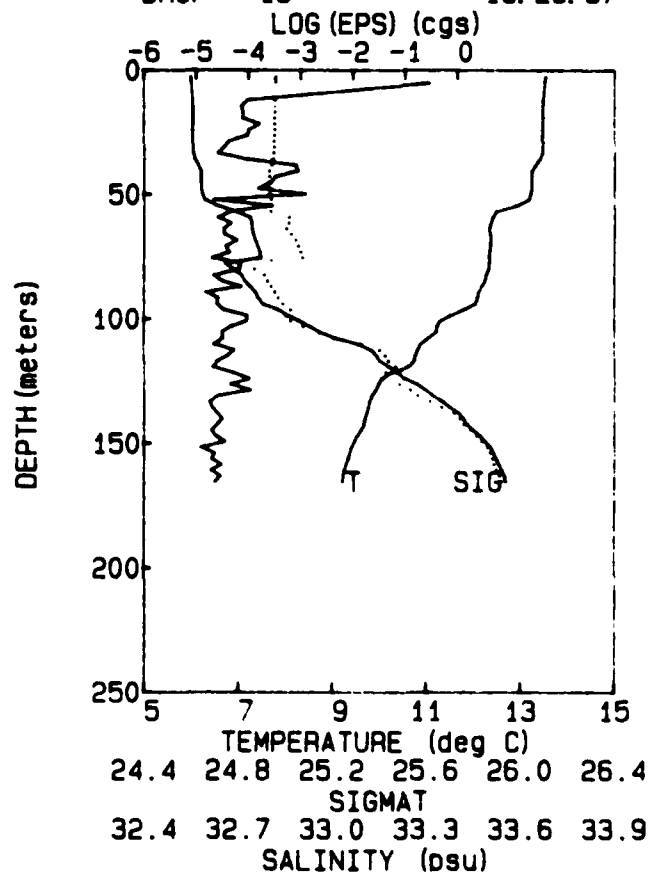
TAPE 153 06-04-87
DROP 14 18:10:14



TAPE 153 06-04-87
DROP 15 18:18:55



TAPE 153 06-04-87
DROP 16 18:26:57

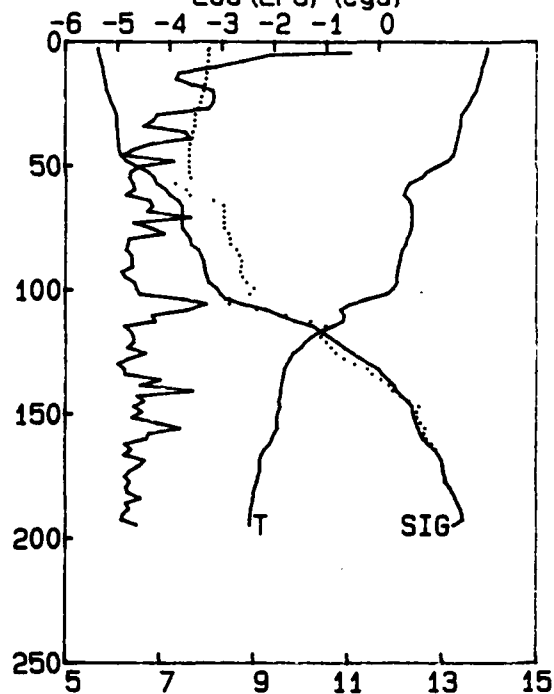


DEPTH (meters)

DEPTH (meters)

TAPE 153 06-04-87
 DROP 18 18: 43: 02

LOG (EPS) (cgs)

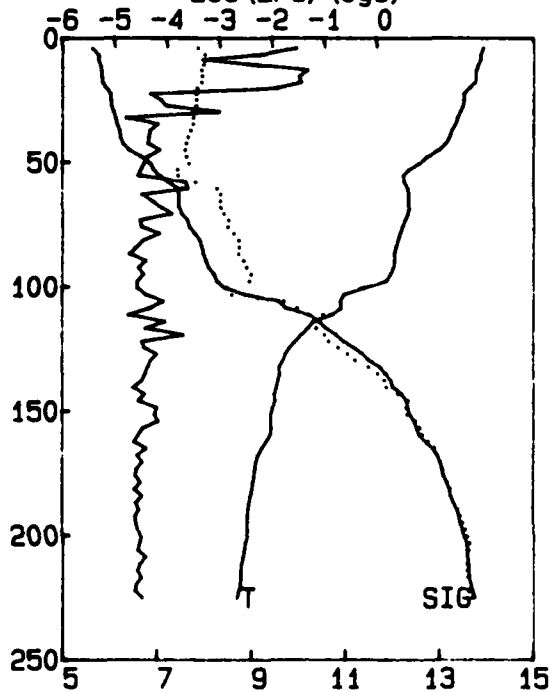


TEMPERATURE (deg C)
 24.4 24.8 25.2 25.6 26.0 26.4
 SIGMAT
 32.4 32.7 33.0 33.3 33.6 33.9
 SALINITY (psu)

TAPE 153 06-04-87
 DROP 19 18: 51: 20

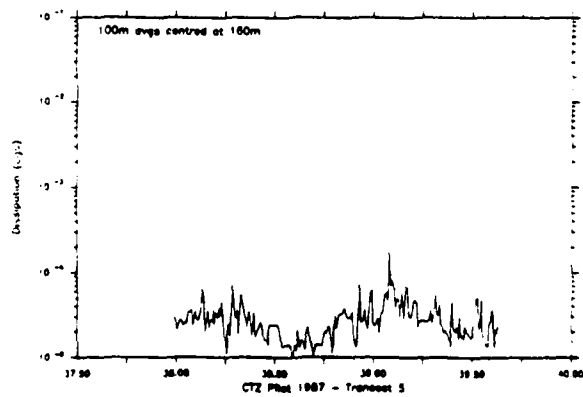
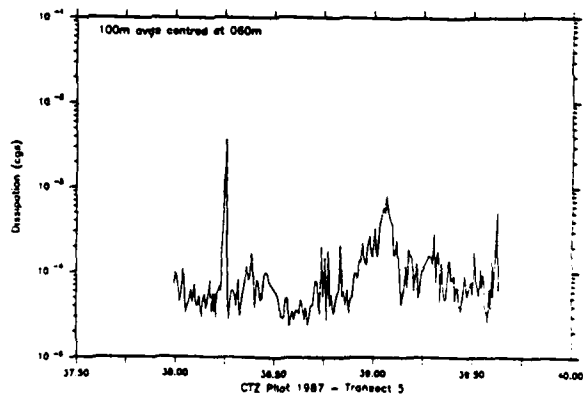
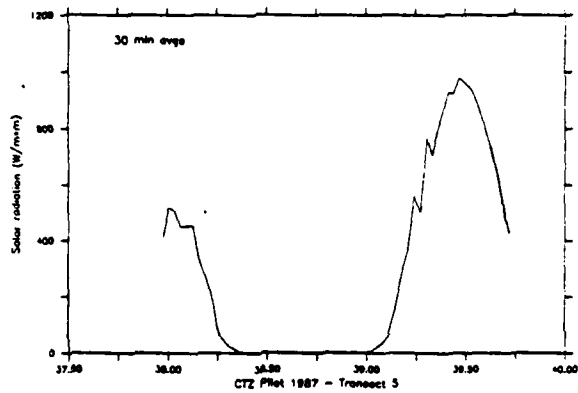
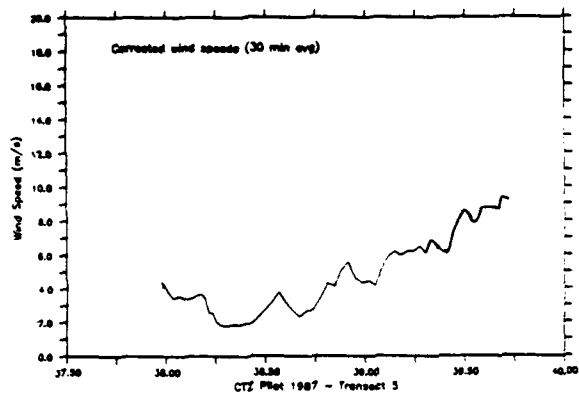
LOG (EPS) (cgs)

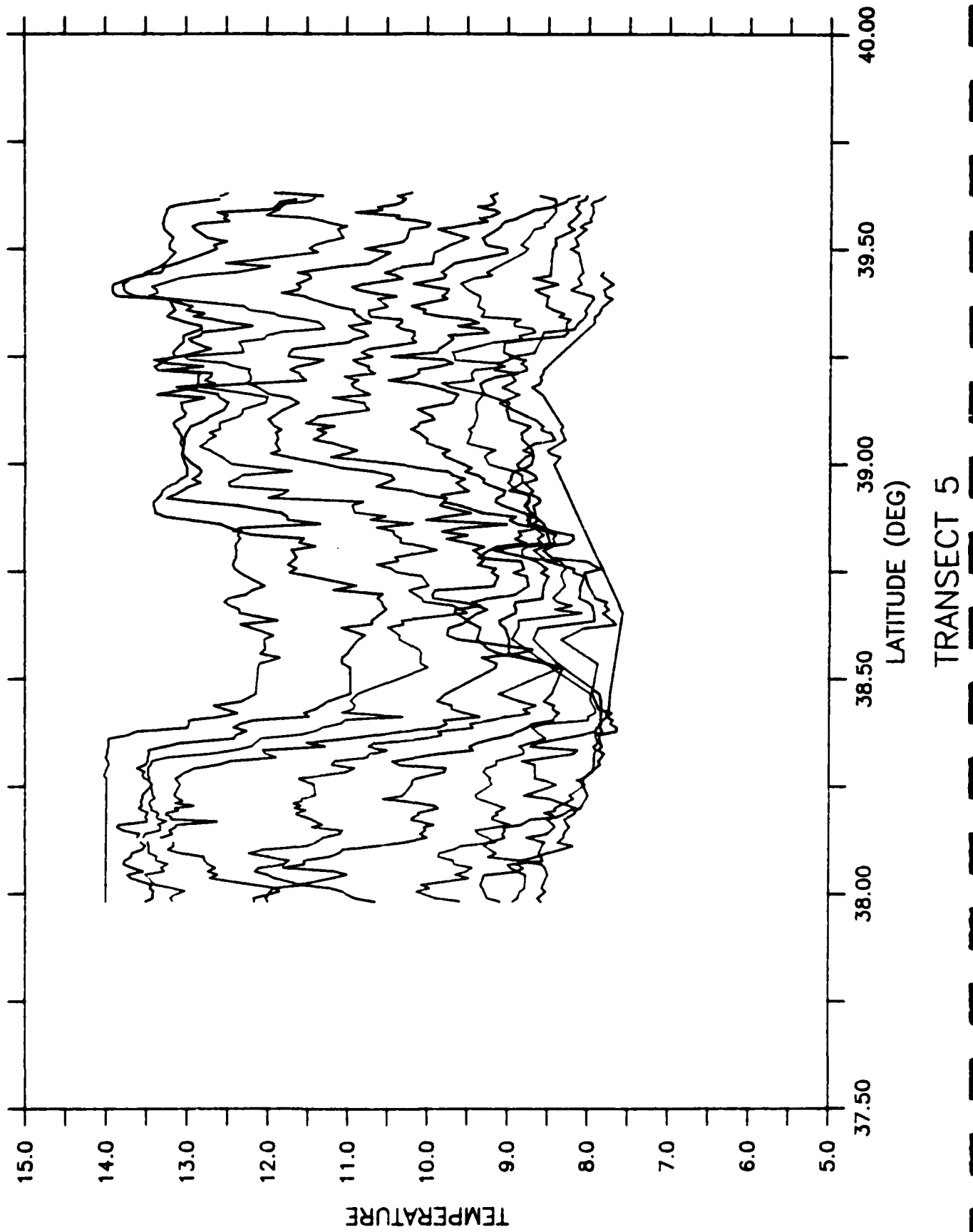
DEPTH (meters)

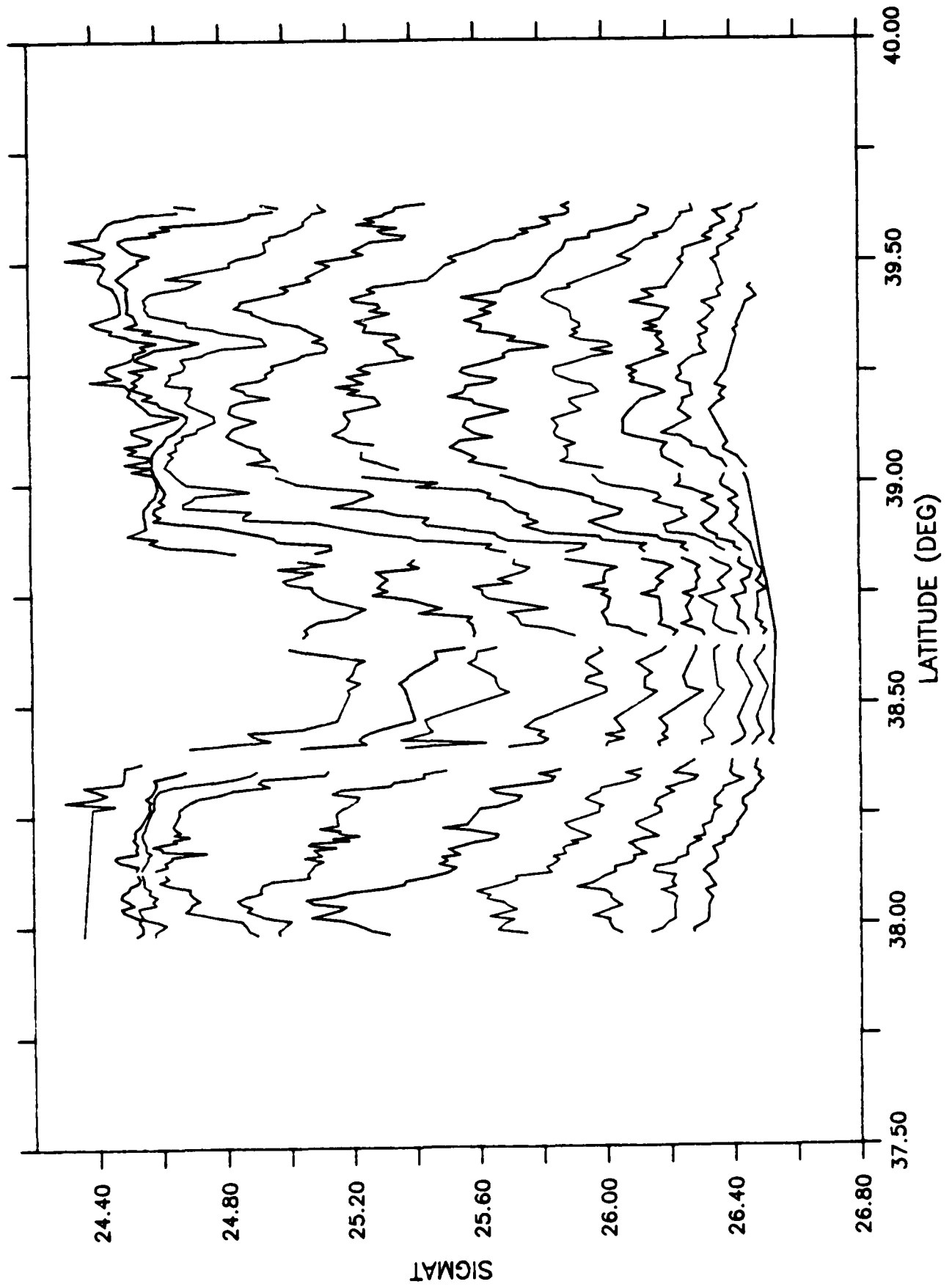


TEMPERATURE (deg C)
 24.4 24.8 25.2 25.6 26.0 26.4
 SIGMAT
 32.4 32.7 33.0 33.3 33.6 33.9
 SALINITY (psu)

TRANSECT 5

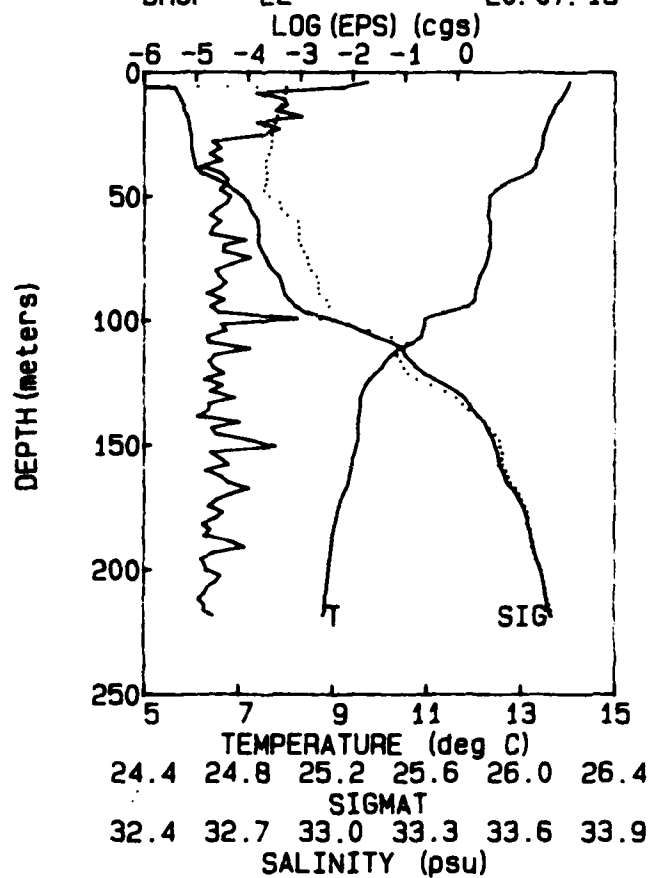




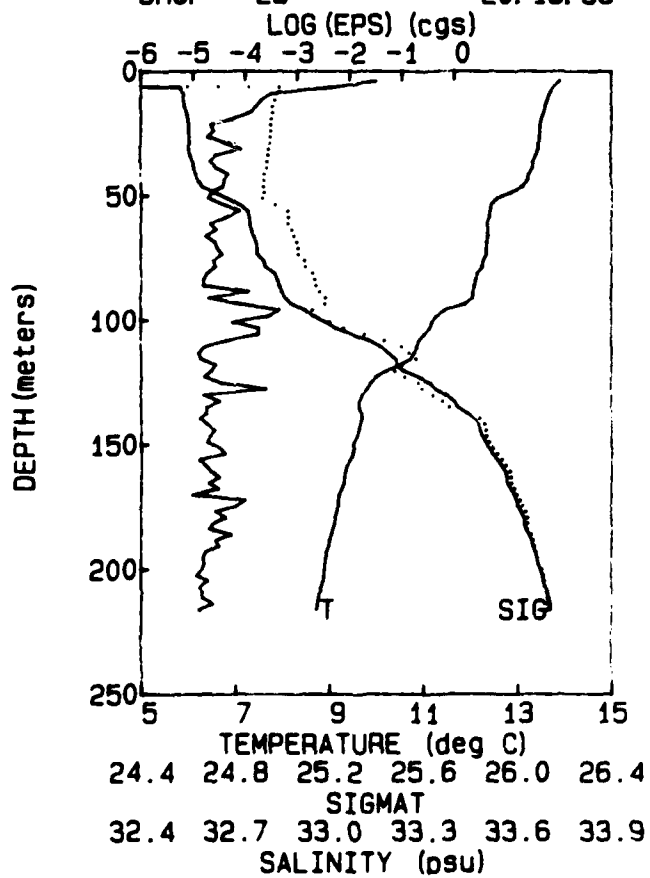


TRANSECT 5

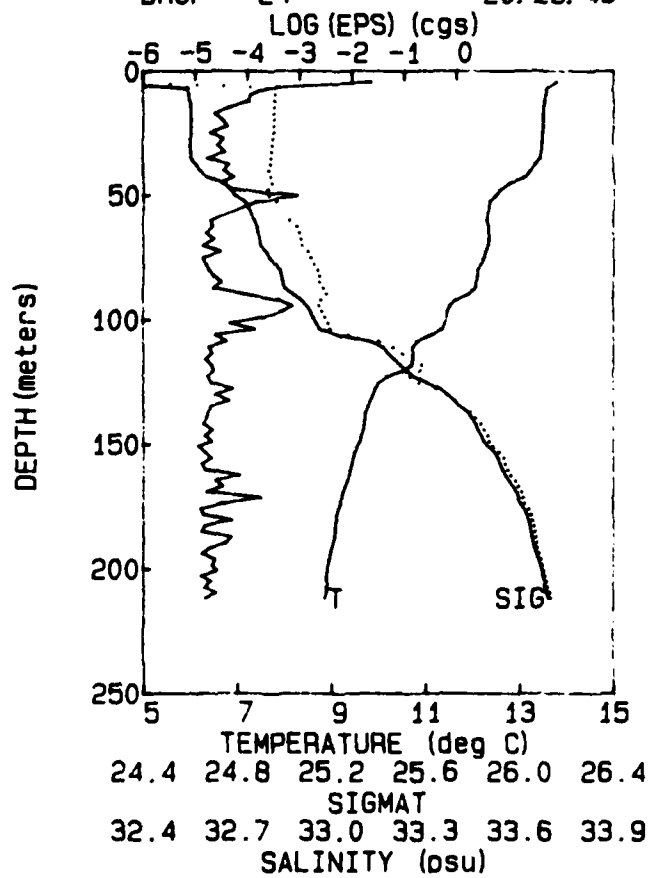
TAPE 153 06-04-87
 DROP 22 20:07:15



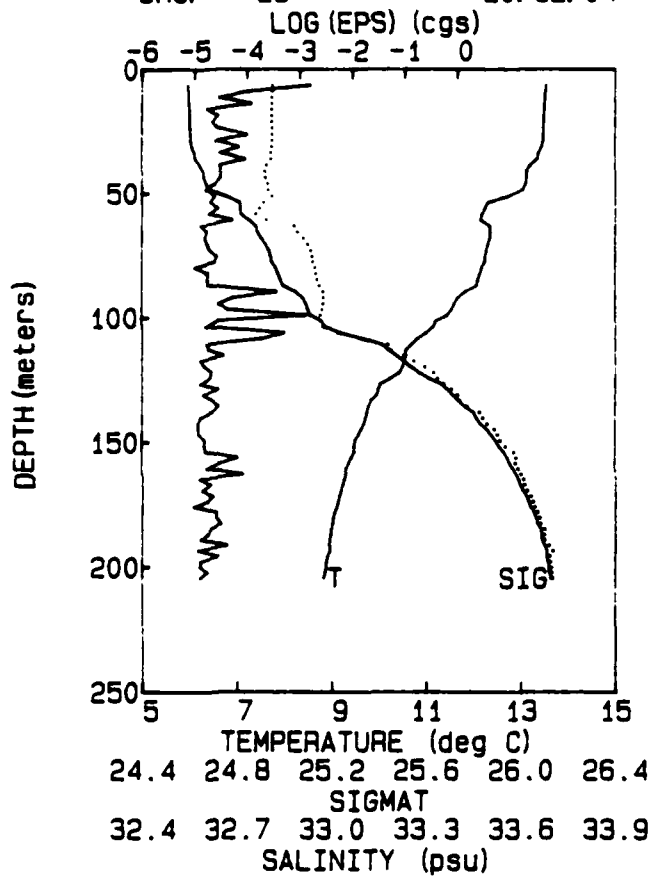
TAPE 153 06-04-87
 DROP 23 20:15:35



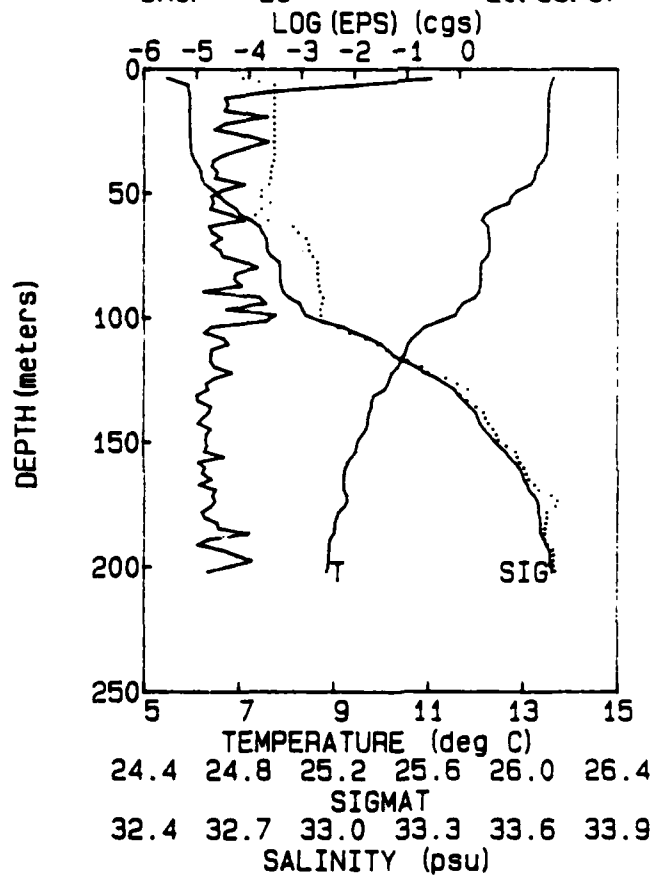
TAPE 153 06-04-87
 DROP 24 20:23:49



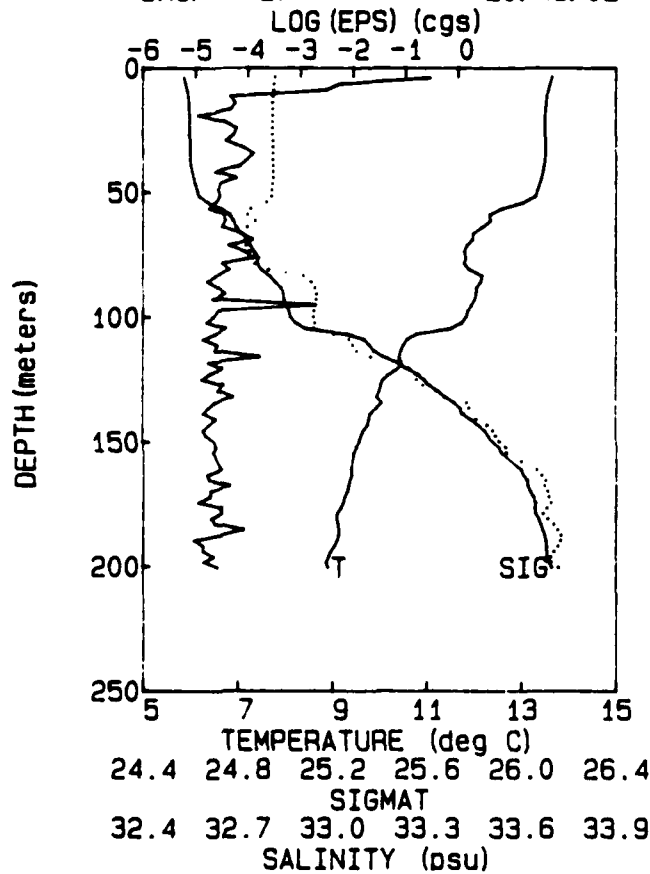
TAPE 153 06-04-87
DROP 25 20: 32: 04



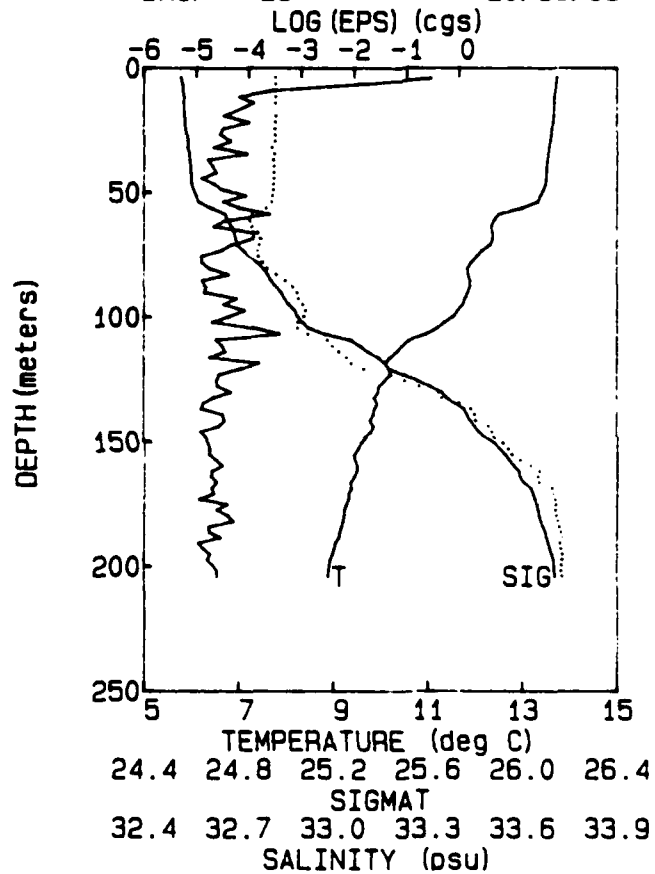
TAPE 153 06-04-87
DROP 26 20: 39: 57



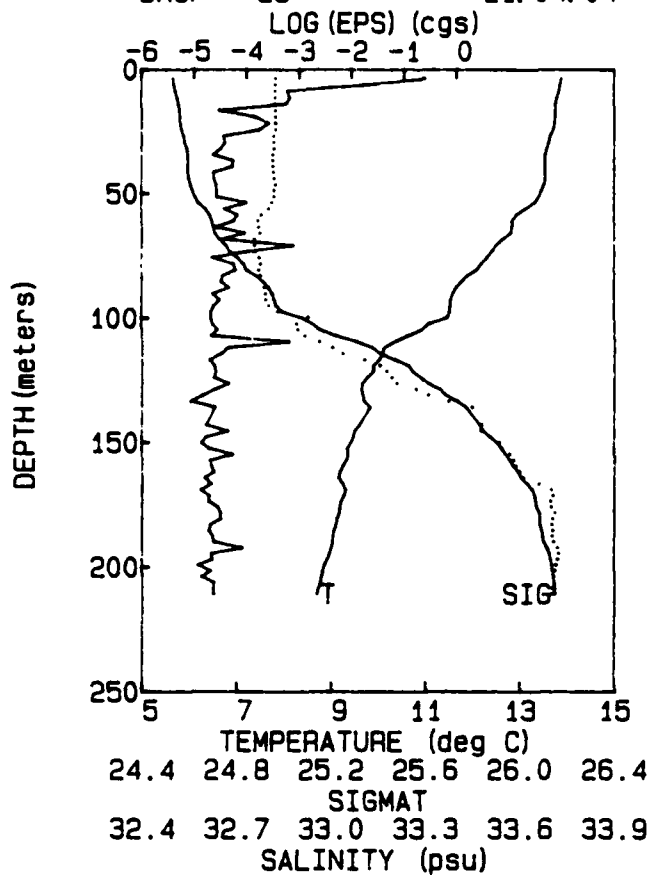
TAPE 153 06-04-87
DROP 27 20: 48: 02



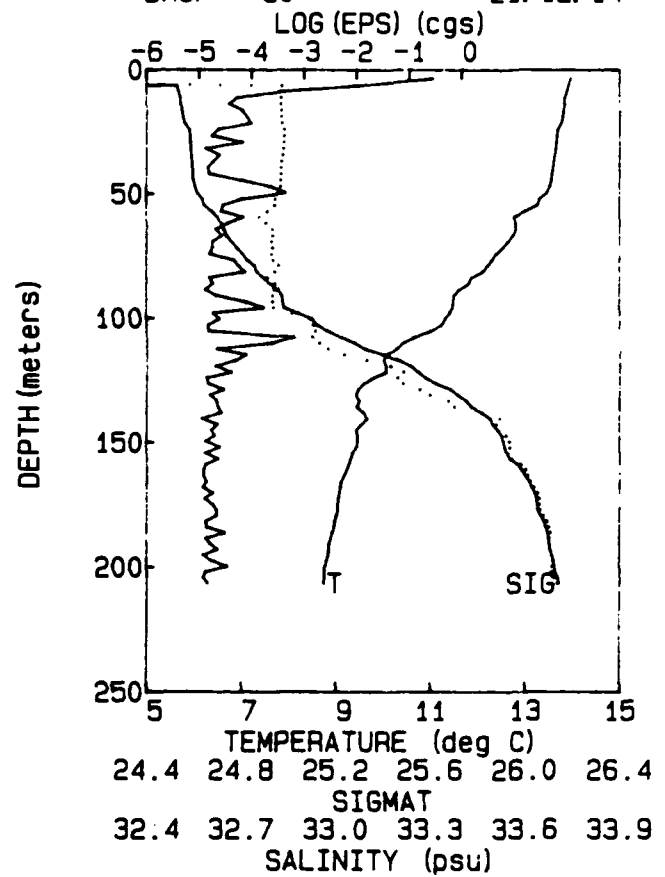
TAPE 153 06-04-87
DROP 28 20: 55: 55



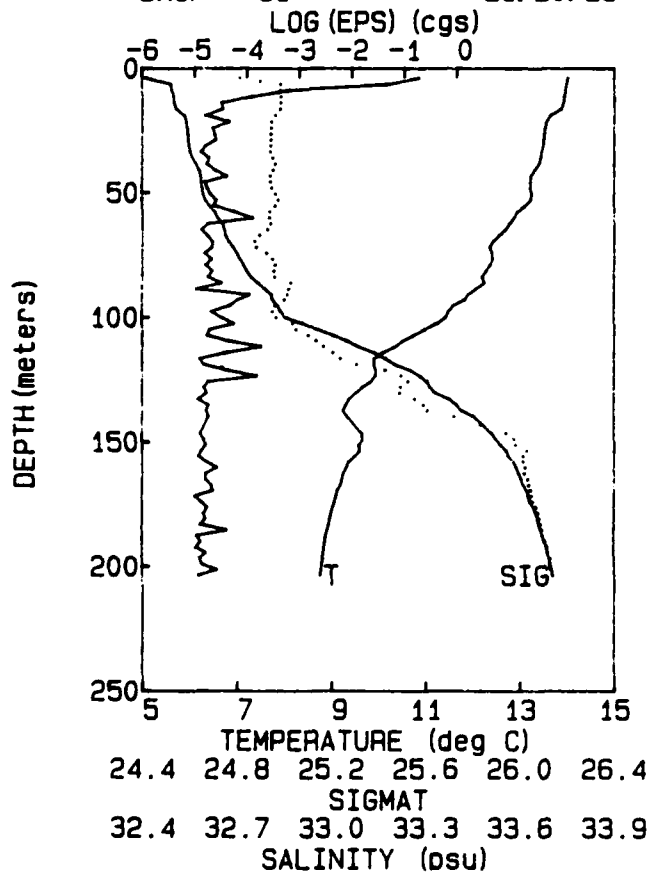
TAPE 153 06-04-87
DROP 29 21: 04: 04



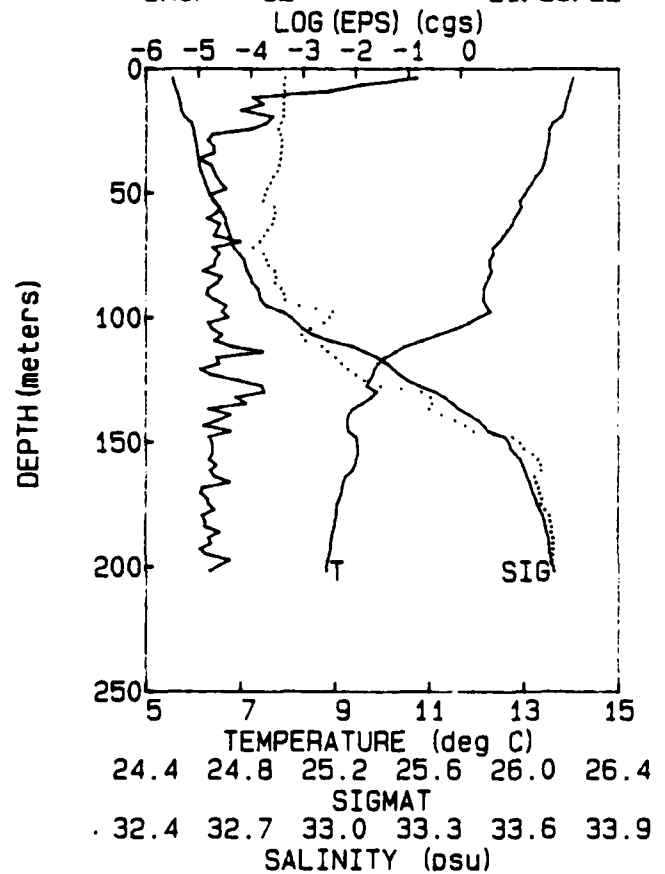
TAPE 153 06-04-87
DROP 30 21: 12: 14



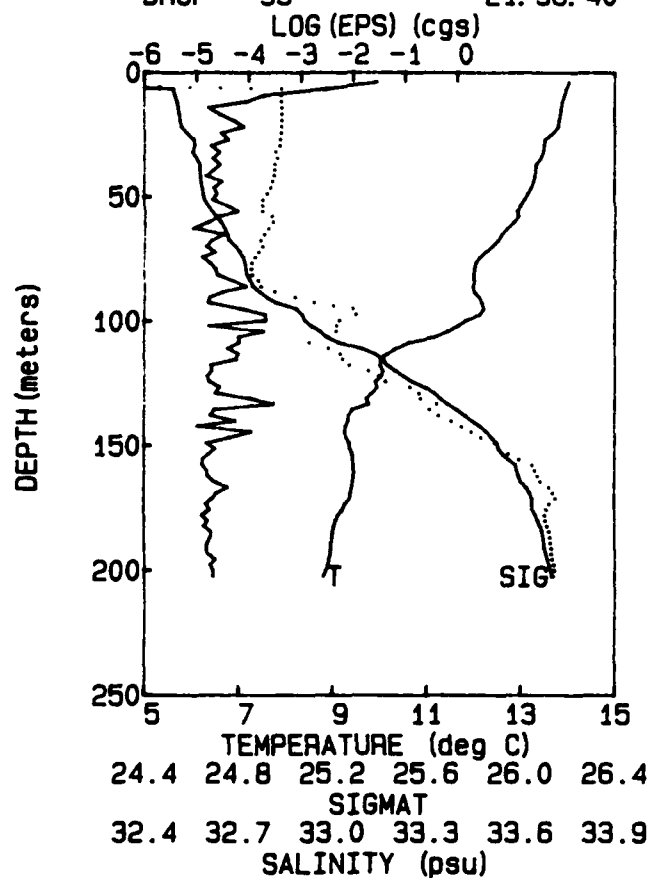
TAPE 153 06-04-87
DROP 31 21: 20: 23



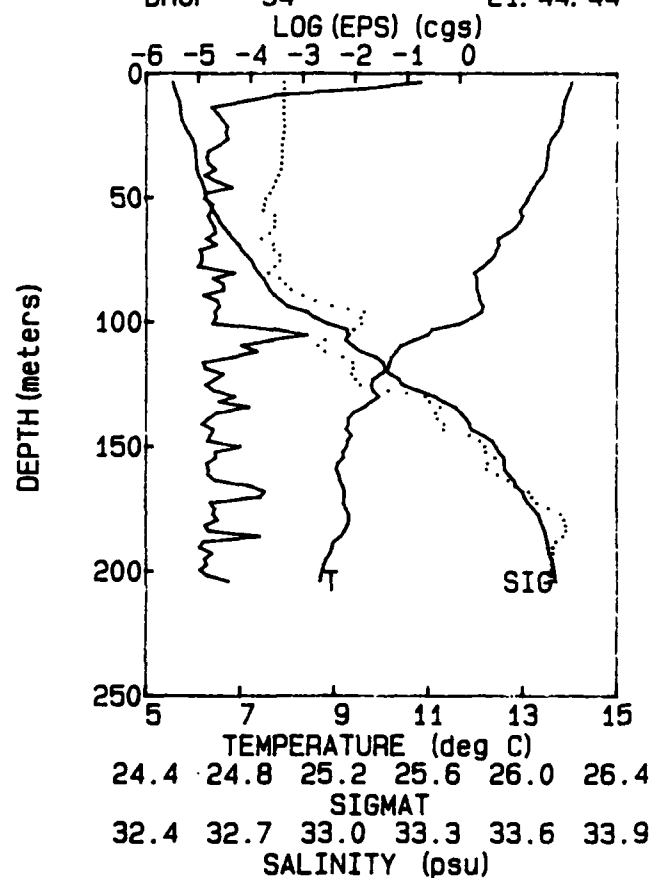
TAPE 153 06-04-87
DROP 32 21: 28: 22



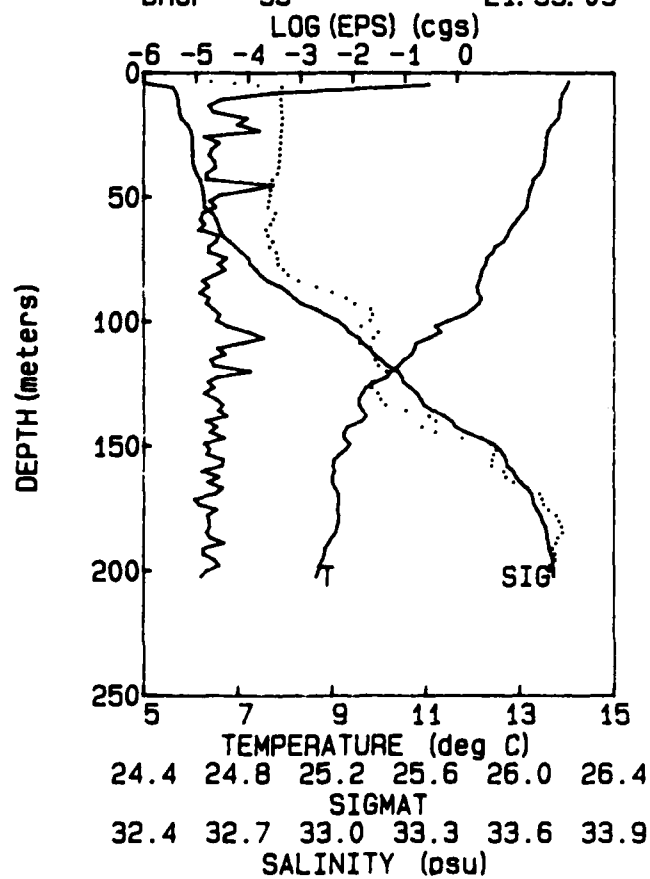
TAPE 153 06-04-87
DROP 33 21: 36: 40



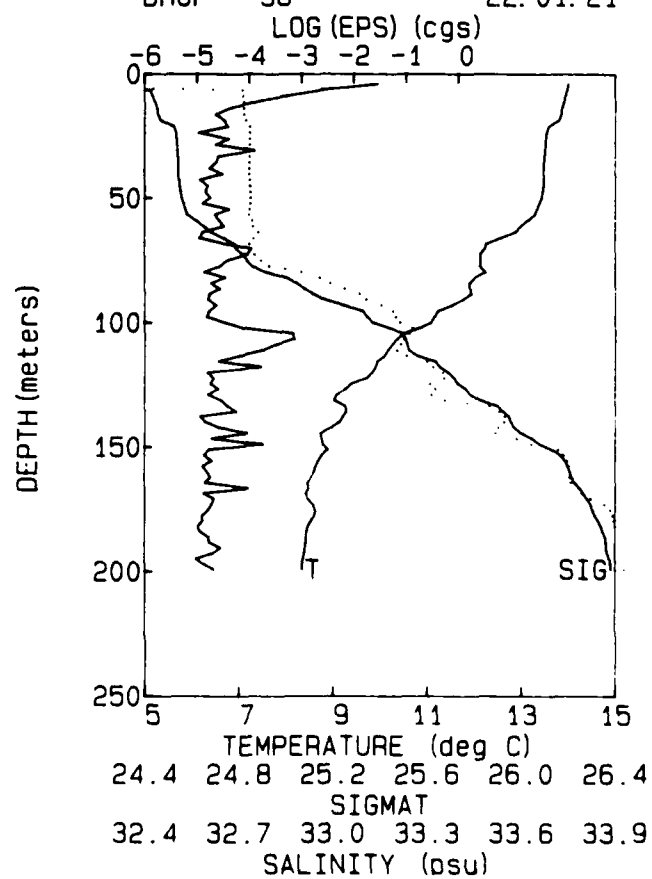
TAPE 153 06-04-87
DROP 34 21: 44: 44



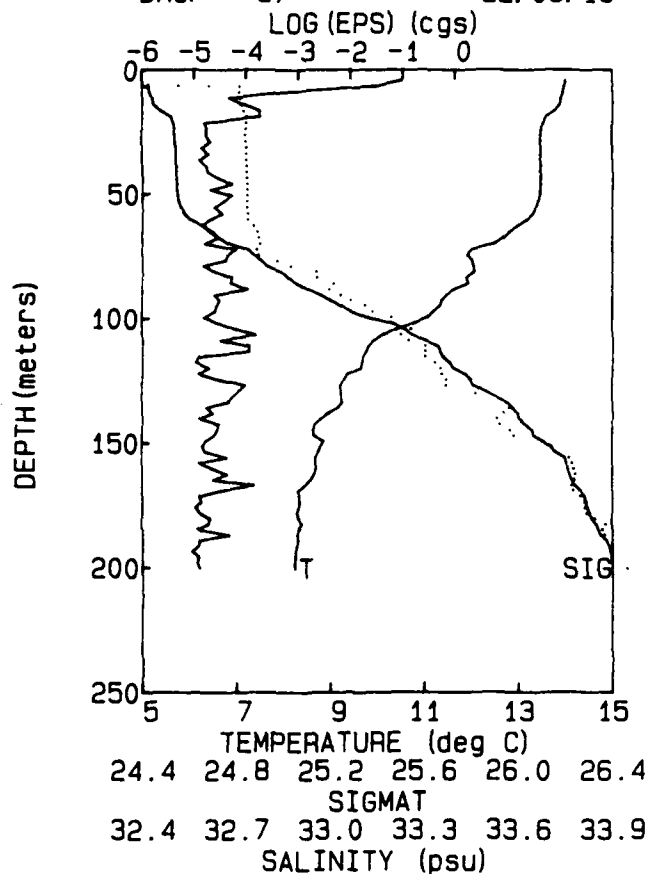
TAPE 153 06-04-87
DROP 35 21: 53: 09



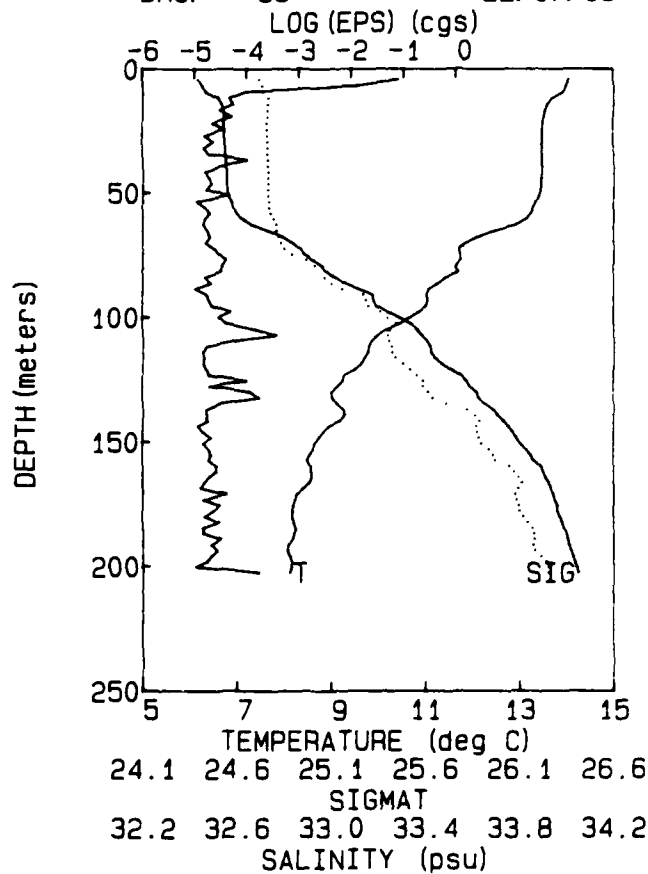
TAPE 153 06-04-87
DROP 36 22: 01: 21



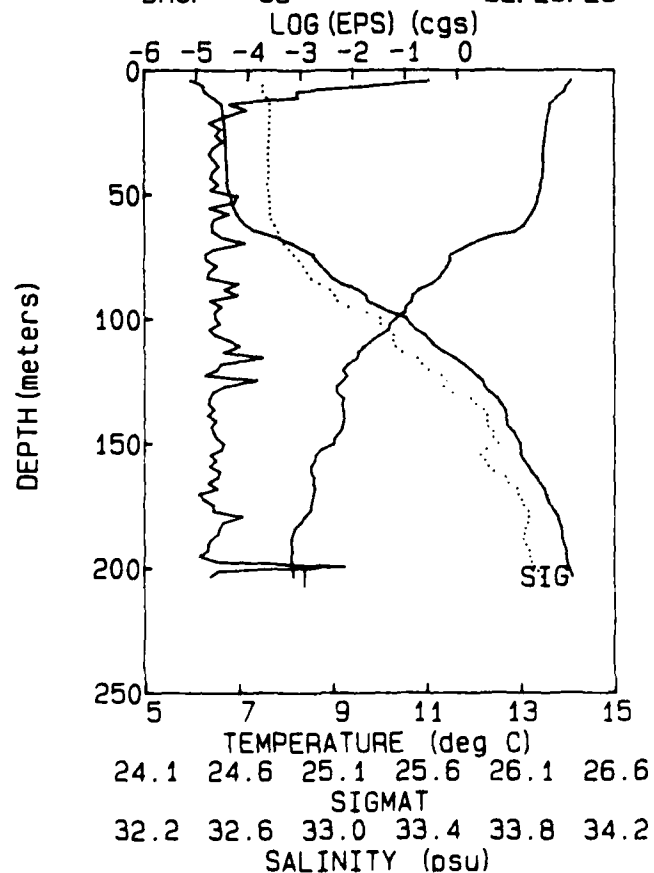
TAPE 153 06-04-87
DROP 37 22: 09: 16



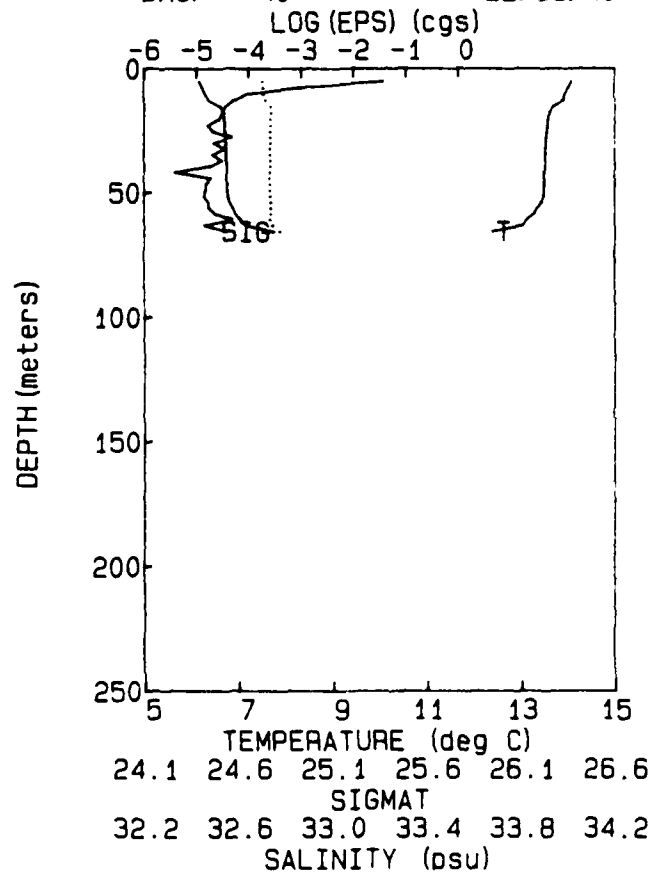
TAPE 153 06-04-87
DROP 38 22: 17: 13

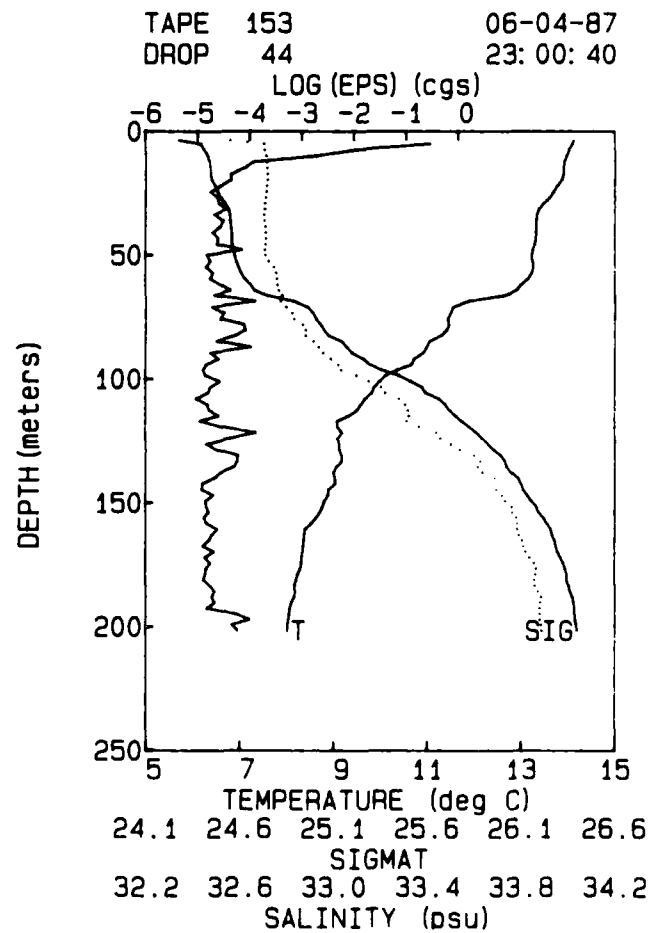
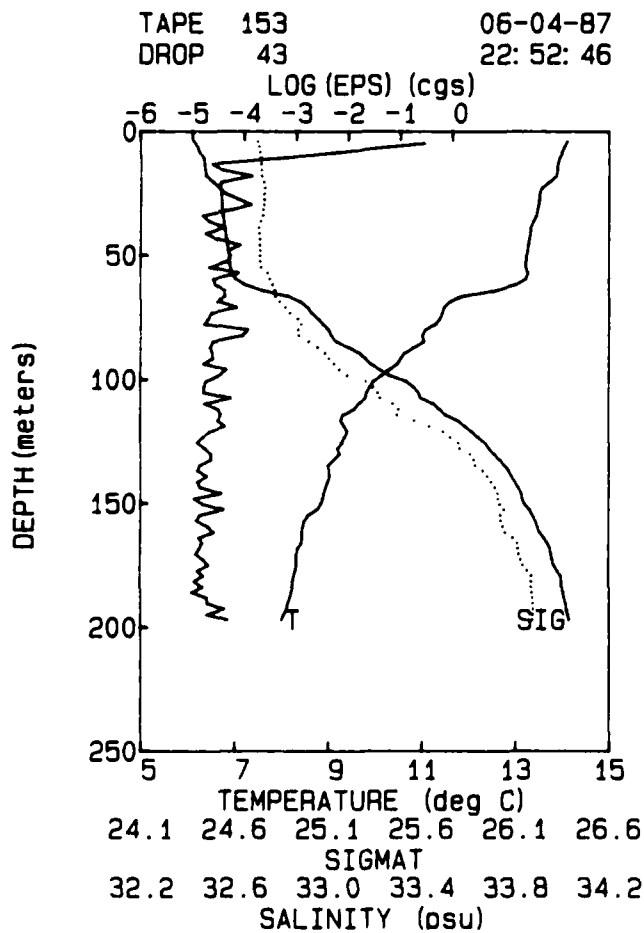
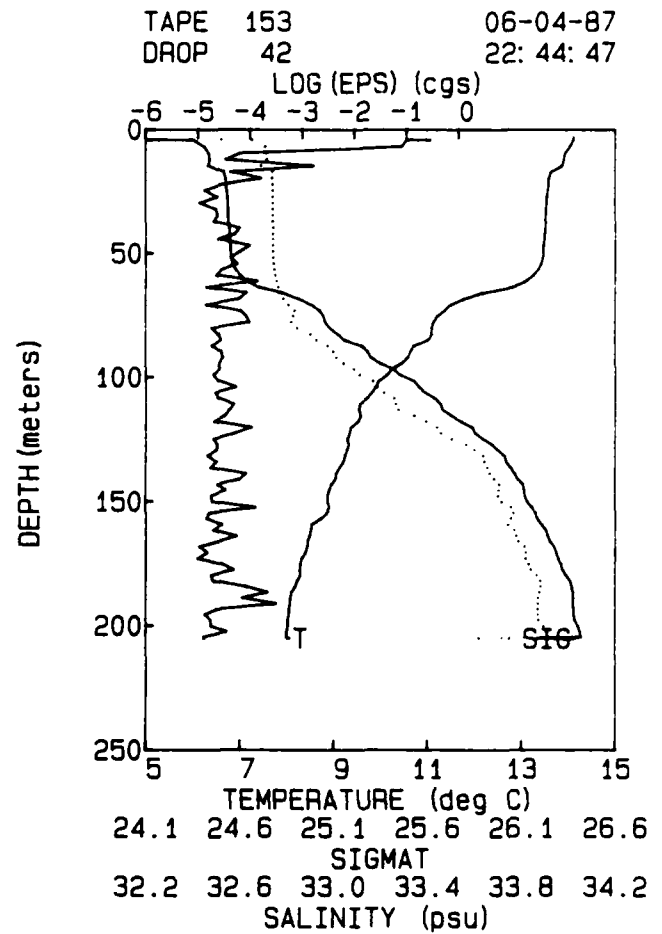
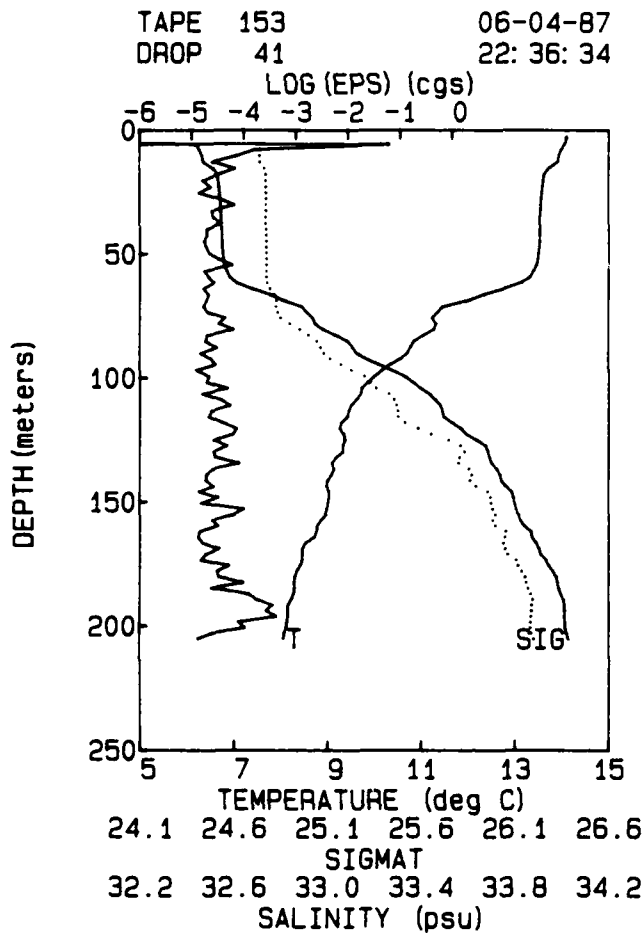


TAPE 153 06-04-87
DROP 39 22: 25: 23

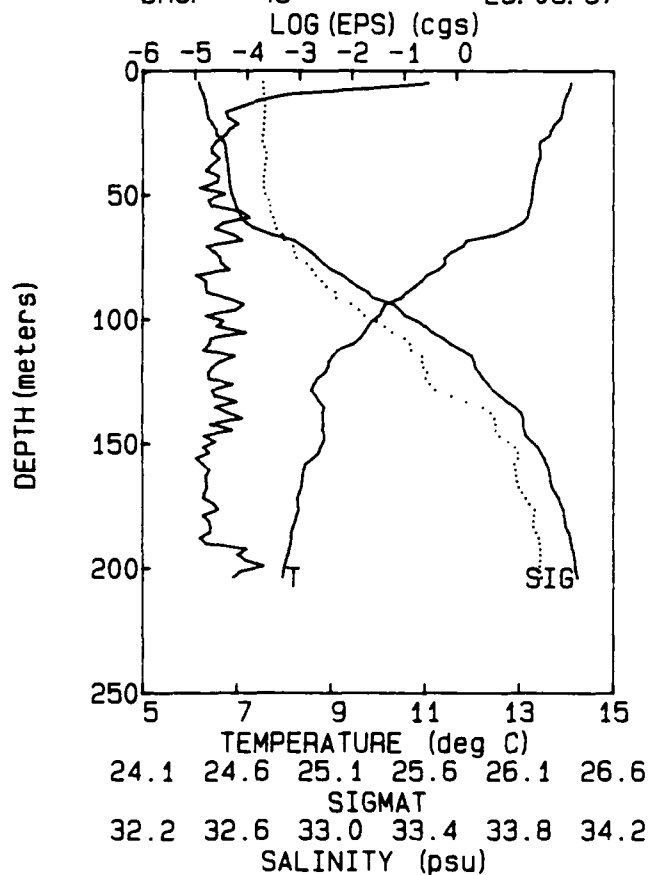


TAPE 153 06-04-87
DROP 40 22: 33: 40

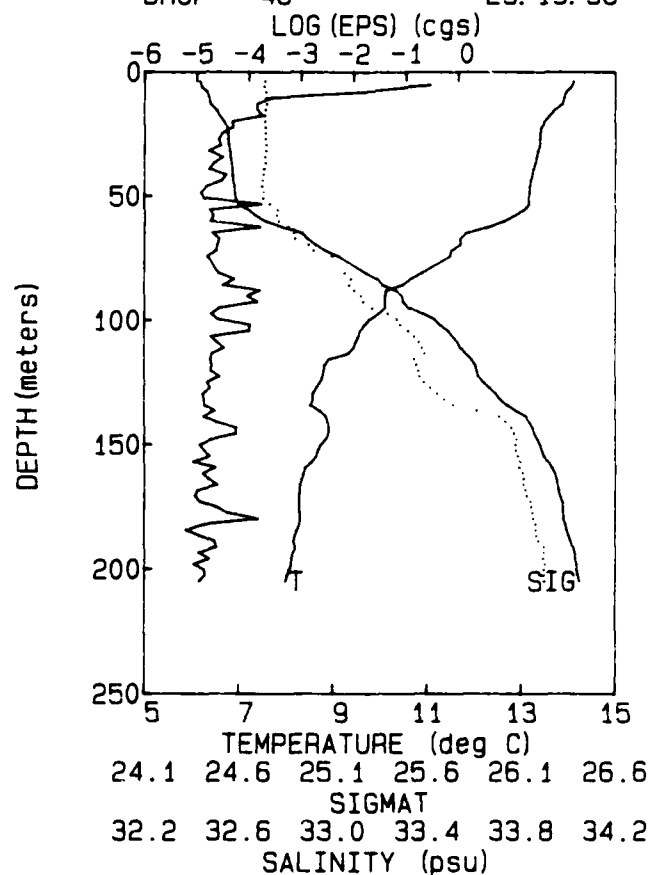




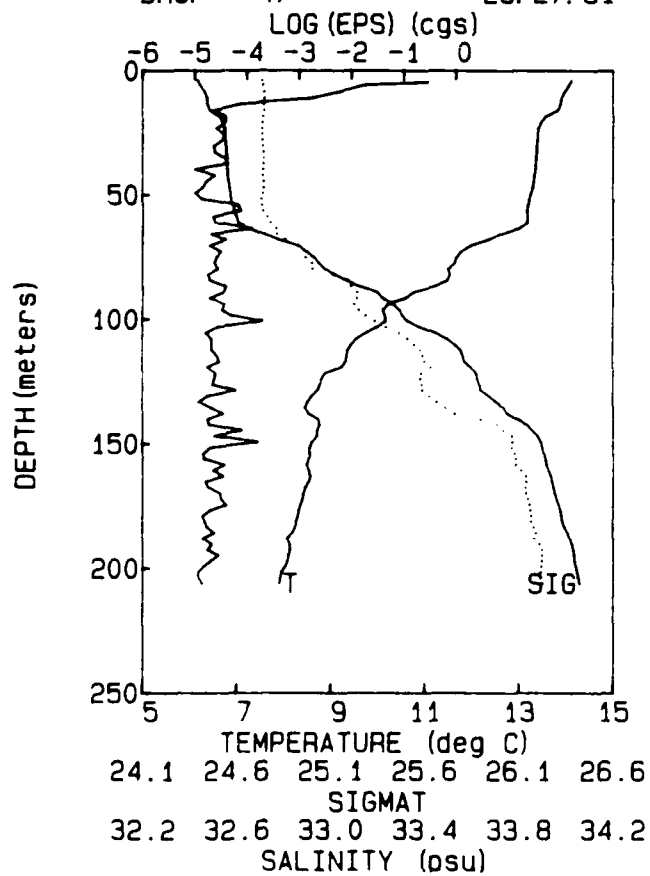
TAPE 153 06-04-87
DROP 45 23:08:37



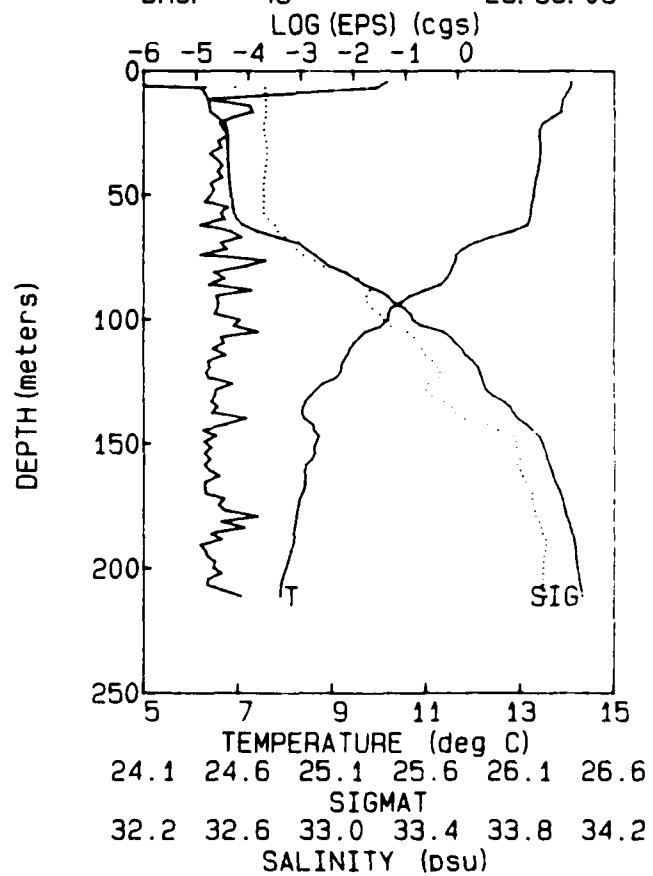
TAPE 153 06-04-87
DROP 46 23:19:36



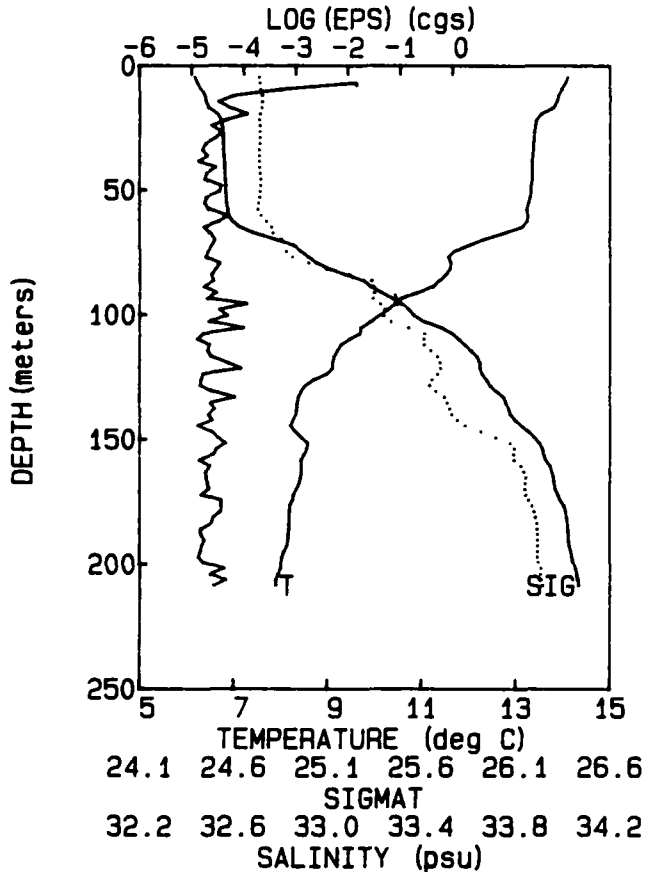
TAPE 153 06-04-87
DROP 47 23:27:51



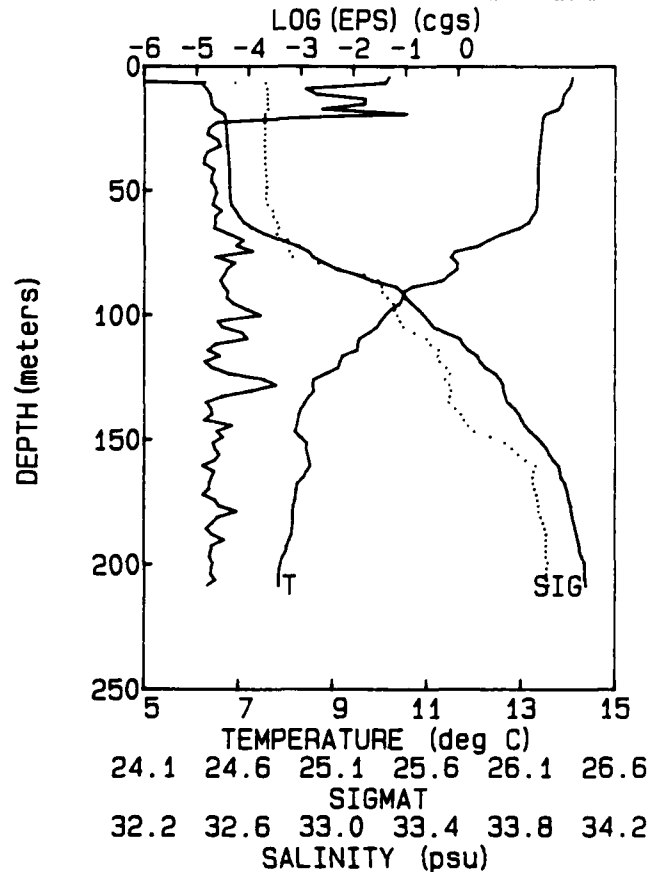
TAPE 153 06-04-87
DROP 48 23:36:08



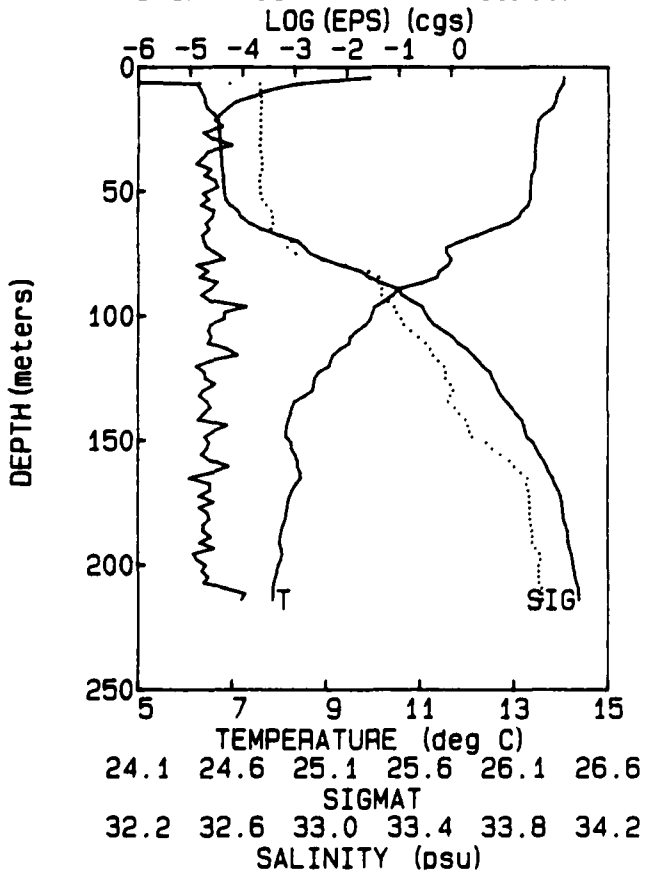
TAPE 153 06-04-87
DROP 49 23: 44: 11



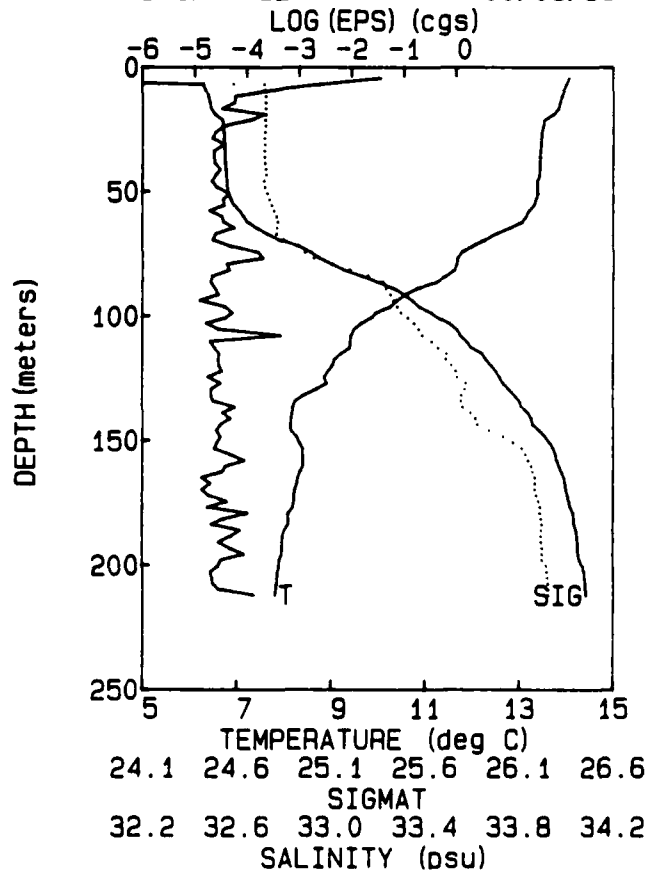
TAPE 153 06-04-87
DROP 50 23: 52: 28



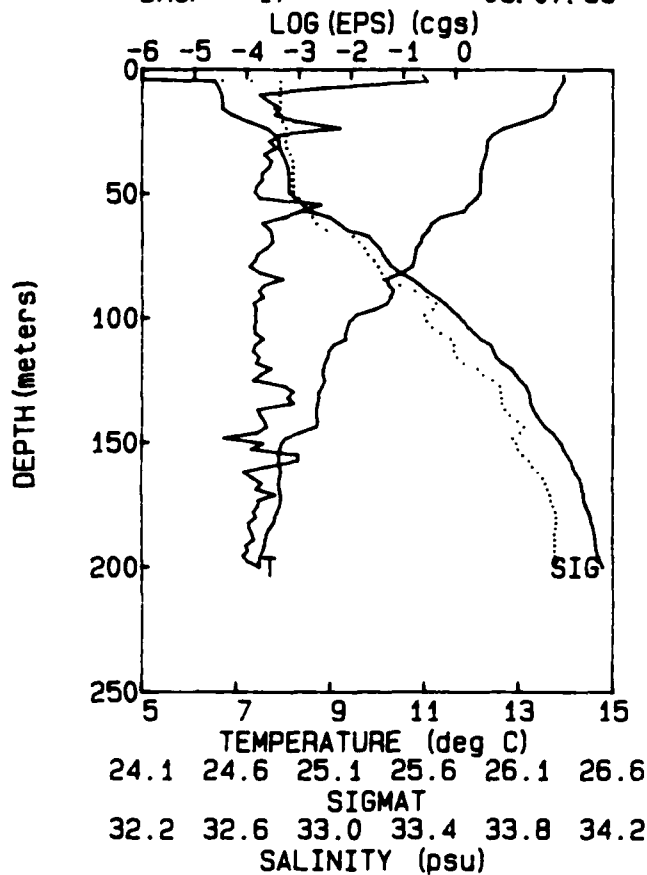
TAPE 153 06-05-87
DROP 51 00: 00: 44



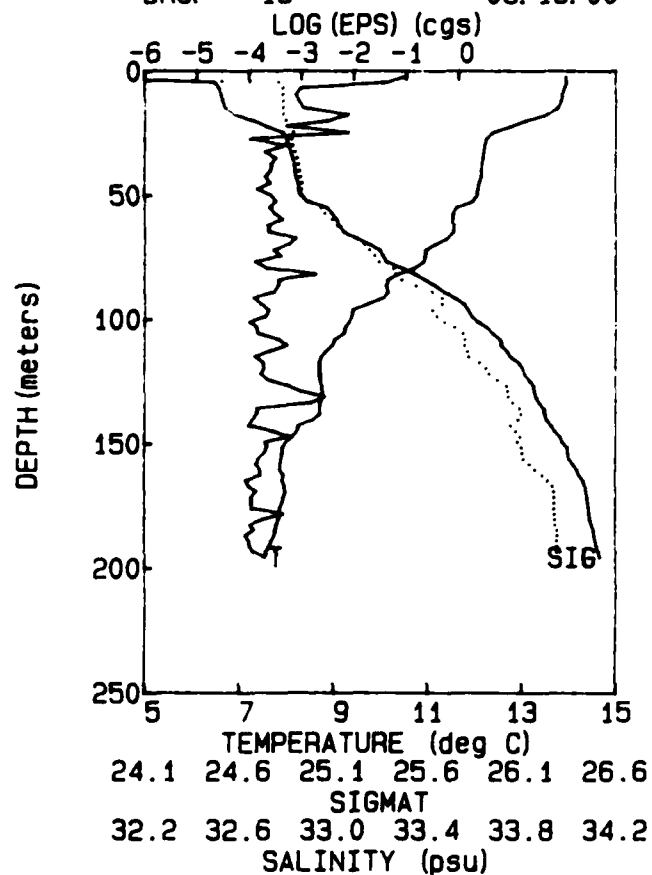
TAPE 153 06-05-87
DROP 52 00: 08: 55



TAPE 154 06-05-87
DROP 17 03: 07: 56

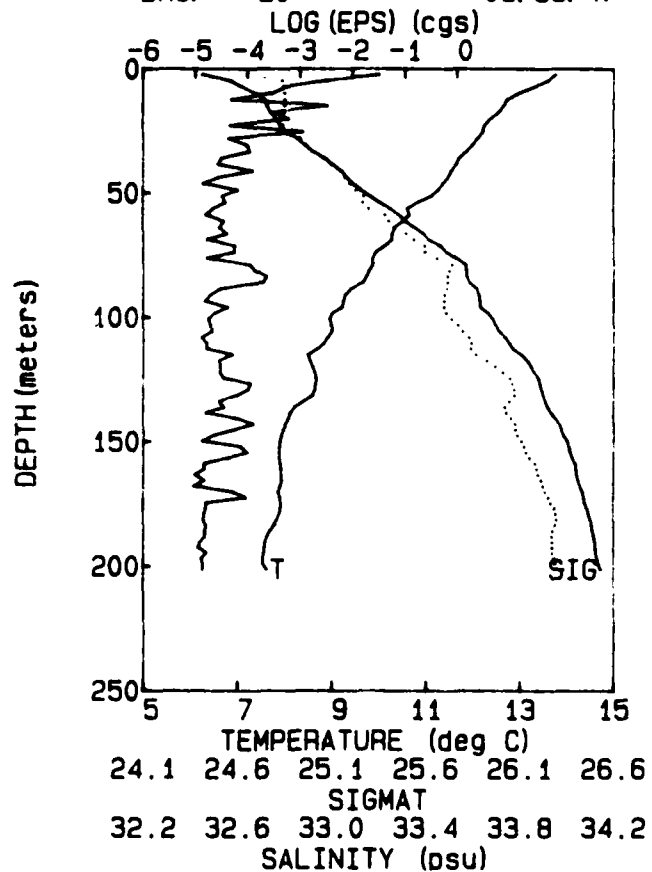


TAPE 154 06-05-87
DROP 18 03: 16: 00

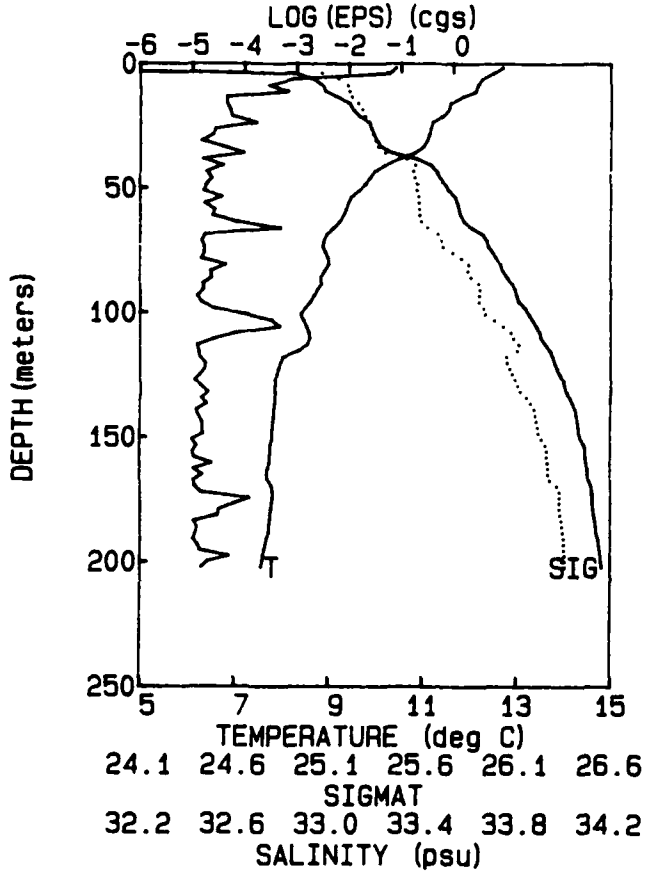


TAPE 154 06-05-87
DROP 20 03: 33: 47

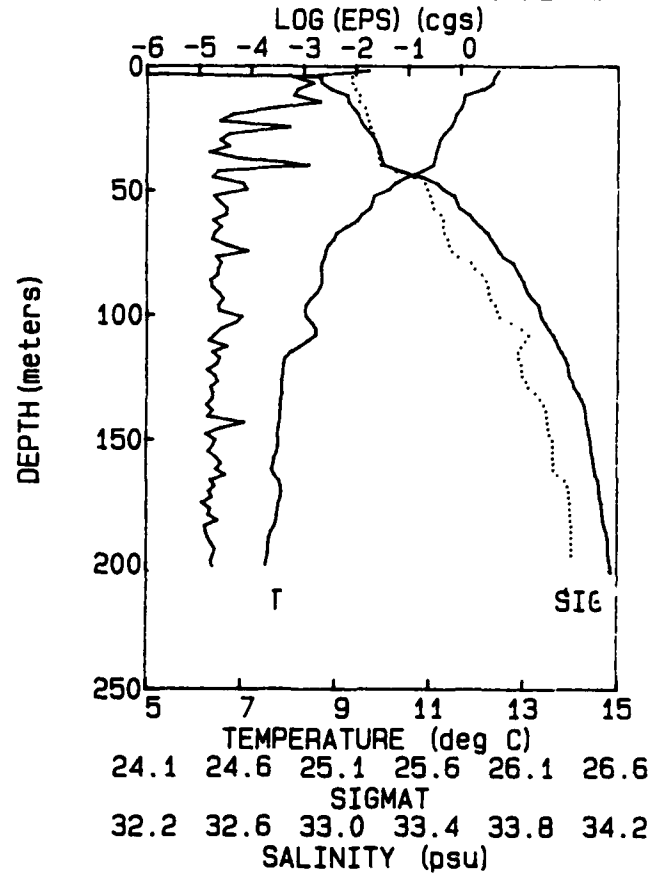
DEPTH (meters)



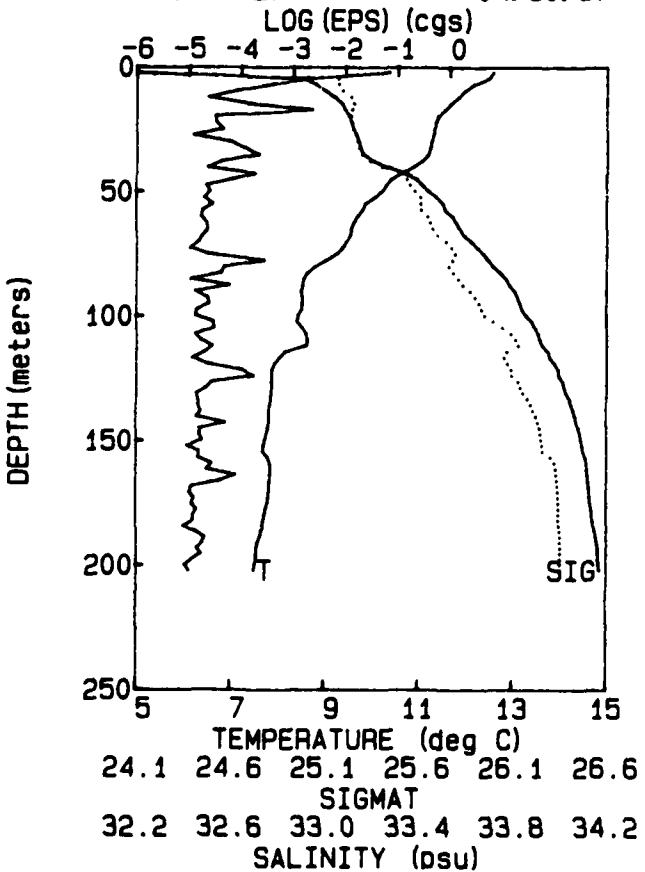
TAPE 154 06-05-87
DROP 25 04: 14: 16



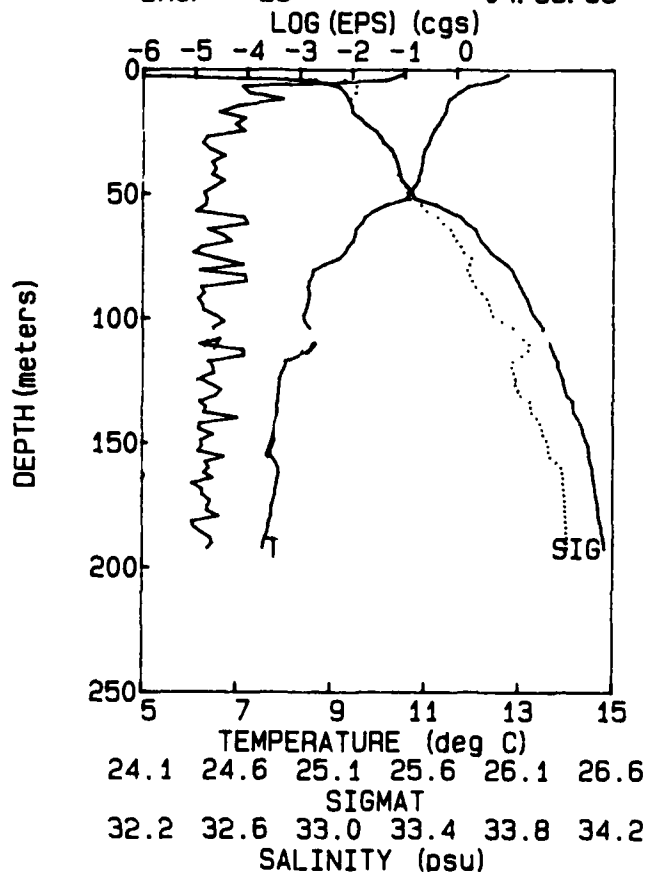
TAPE 154 06-05-87
DROP 26 04: 22: 27

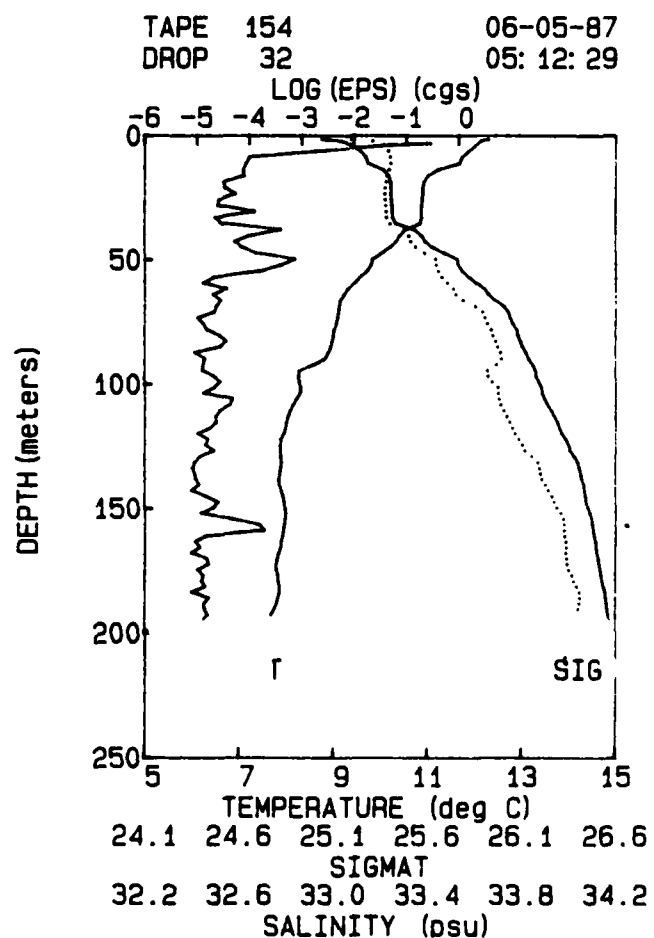
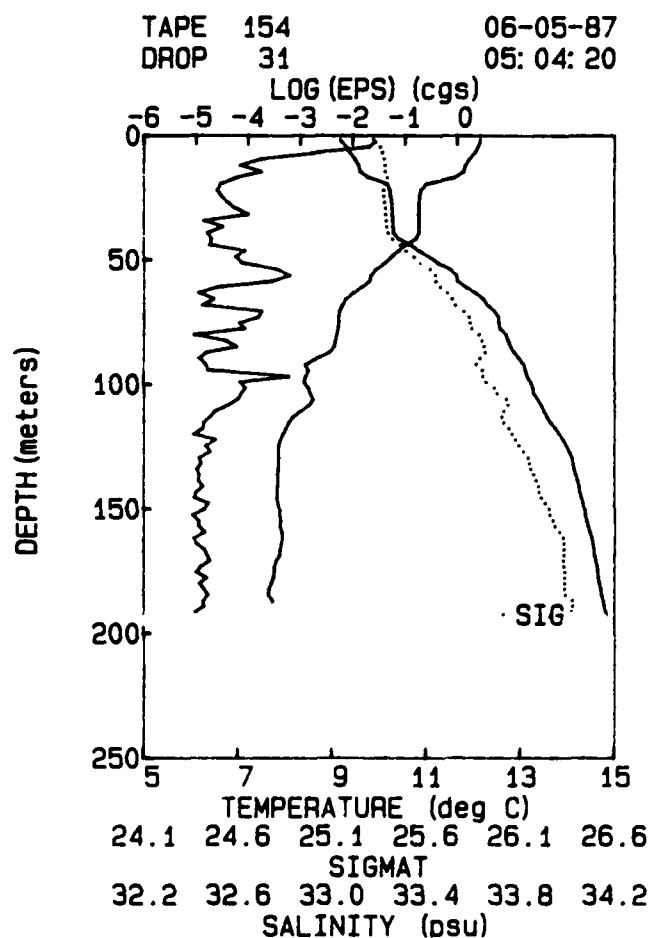
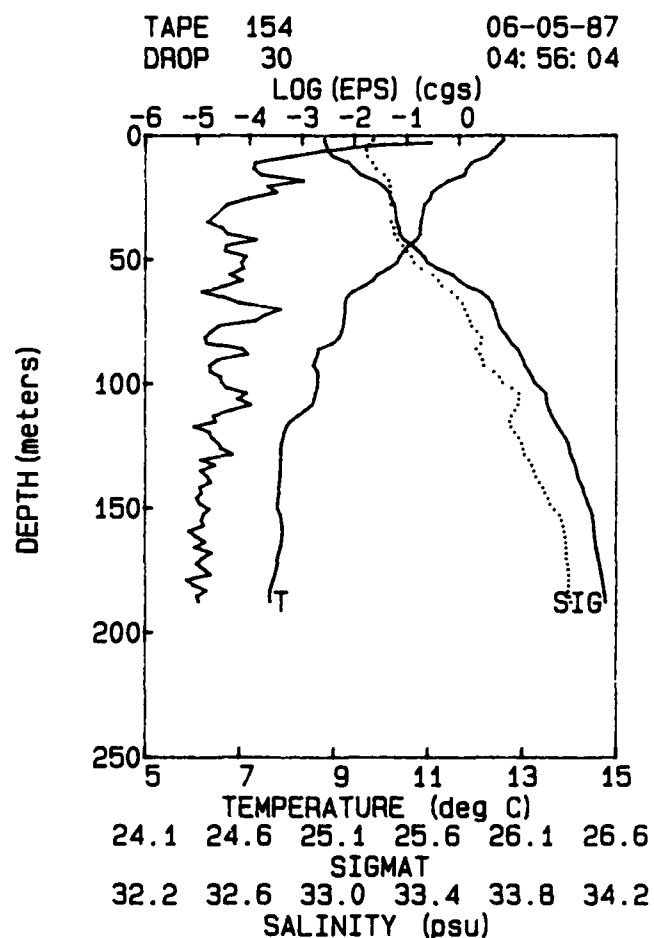
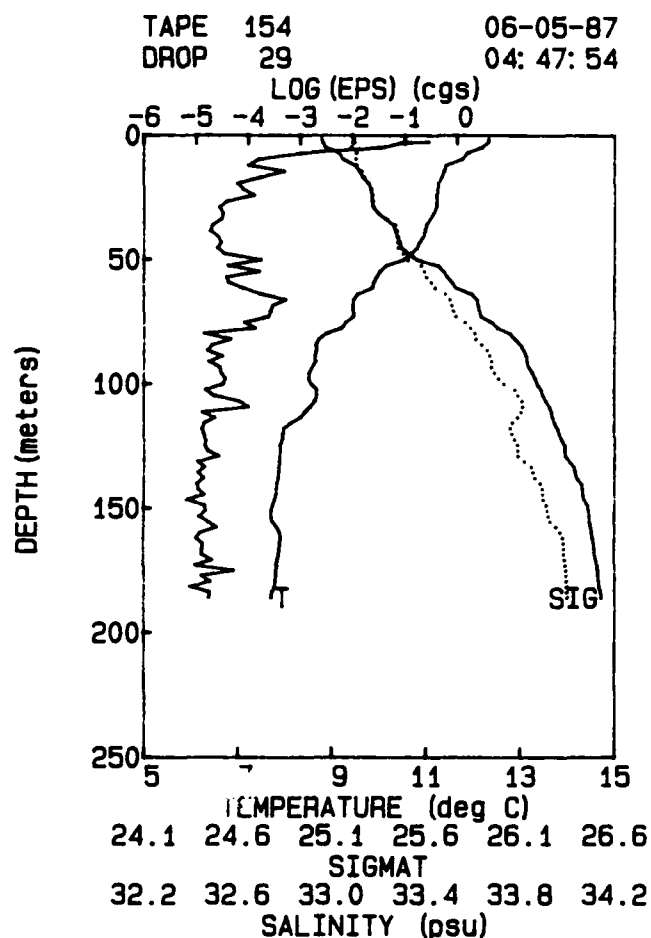


TAPE 154 06-05-87
DROP 27 04: 30: 37



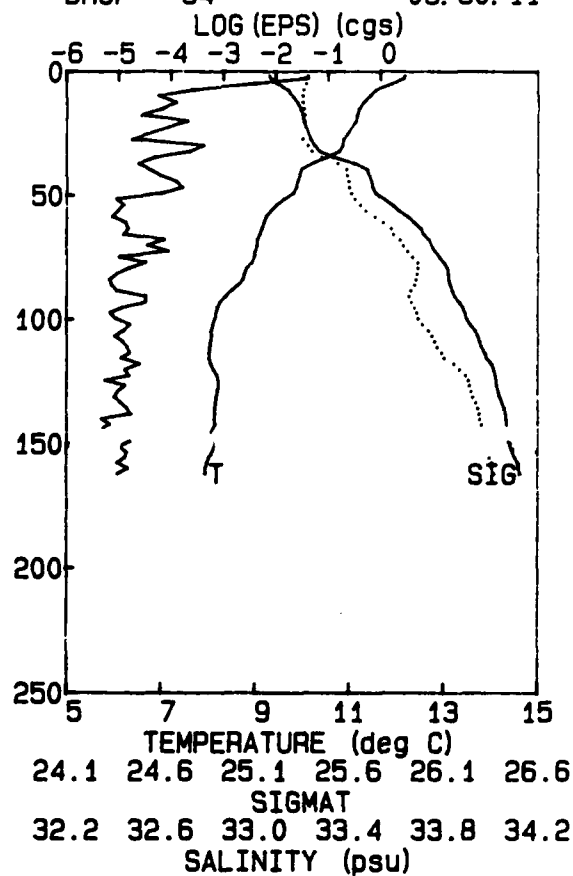
TAPE 154 06-05-87
DROP 28 04: 38: 38





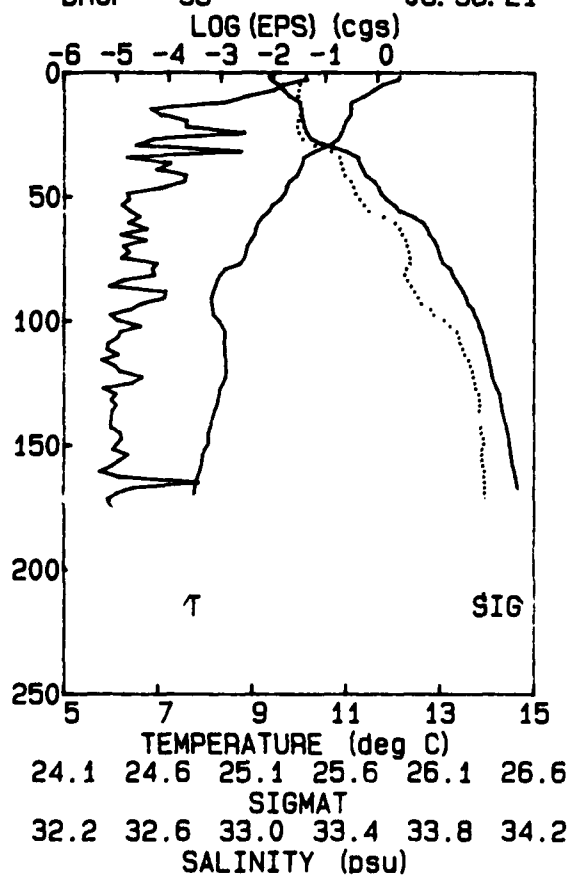
DEPTH (meters)

TAPE 154 06-05-87
 DROP 34 05: 50: 11



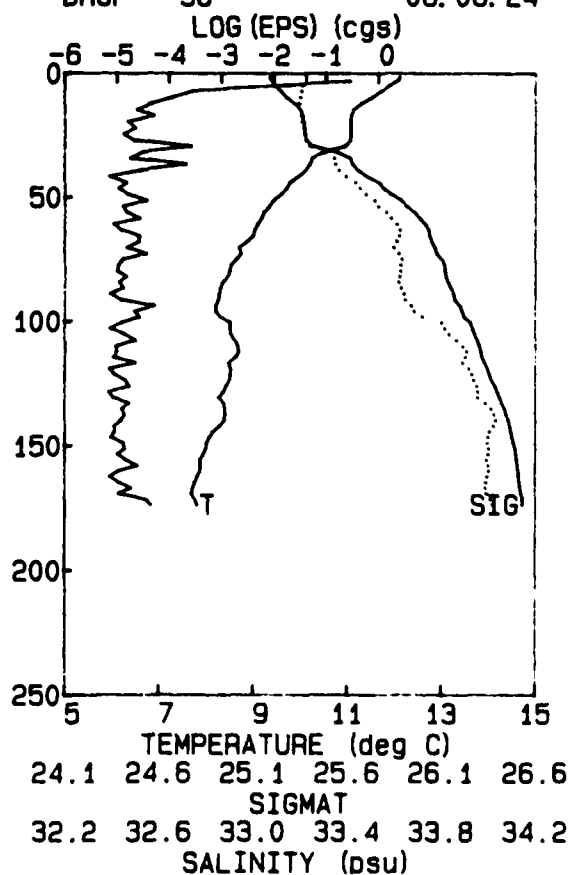
TAPE 154 06-05-87
 DROP 35 05: 58: 21

DEPTH (meters)

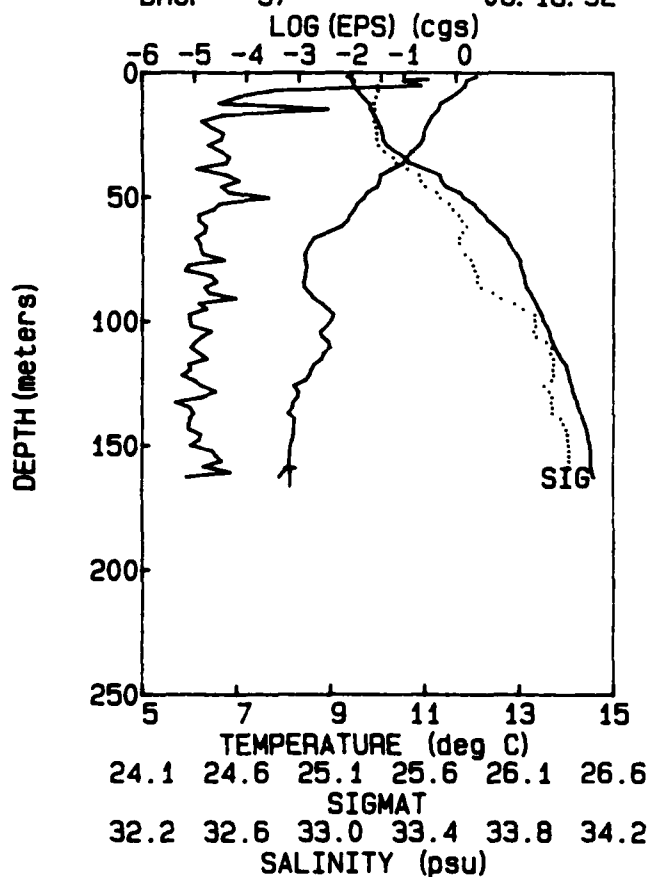


TAPE 154 06-05-87
 DROP 36 06: 06: 24

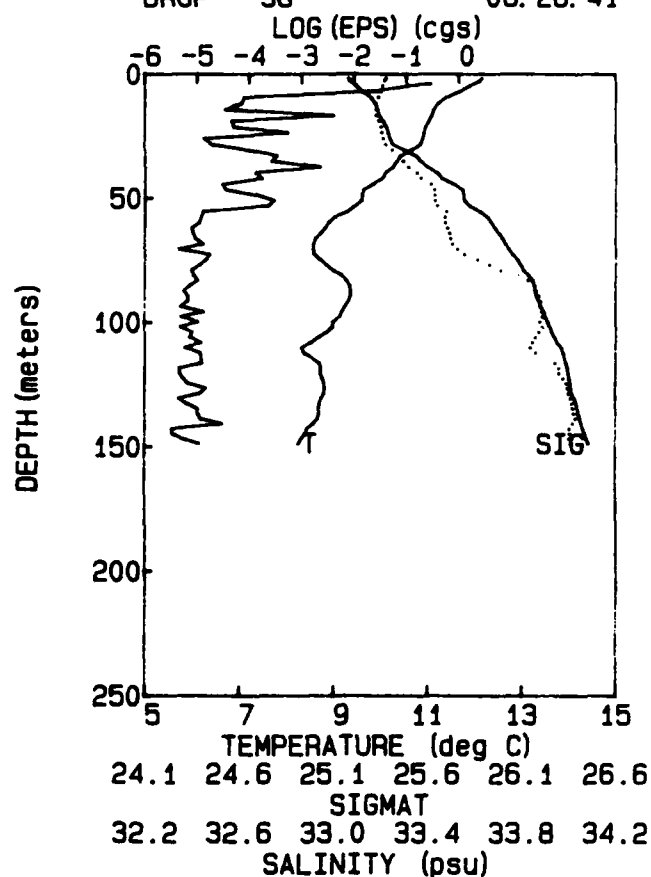
DEPTH (meters)



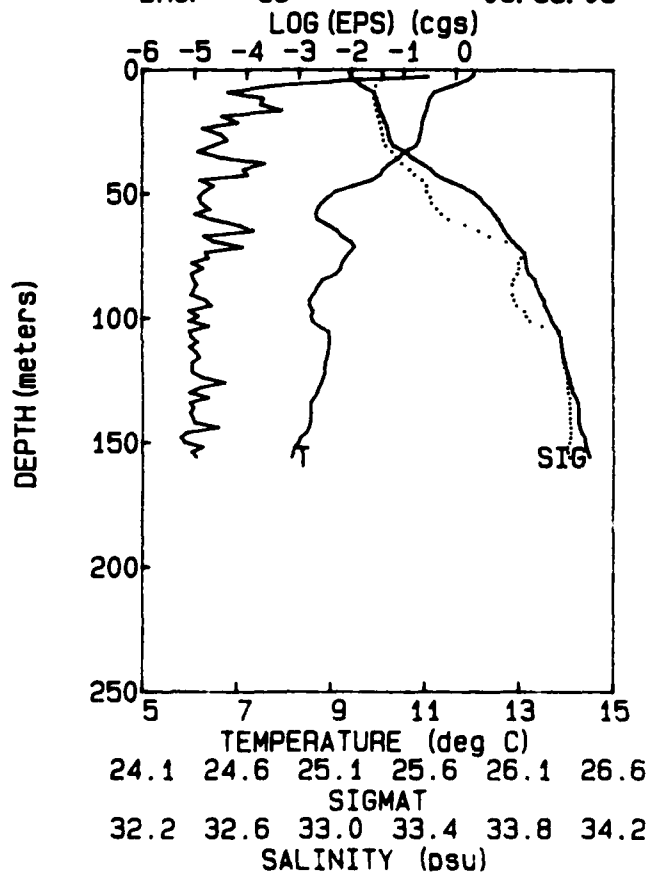
TAPE 154 06-05-87
DROP 37 06: 18: 32



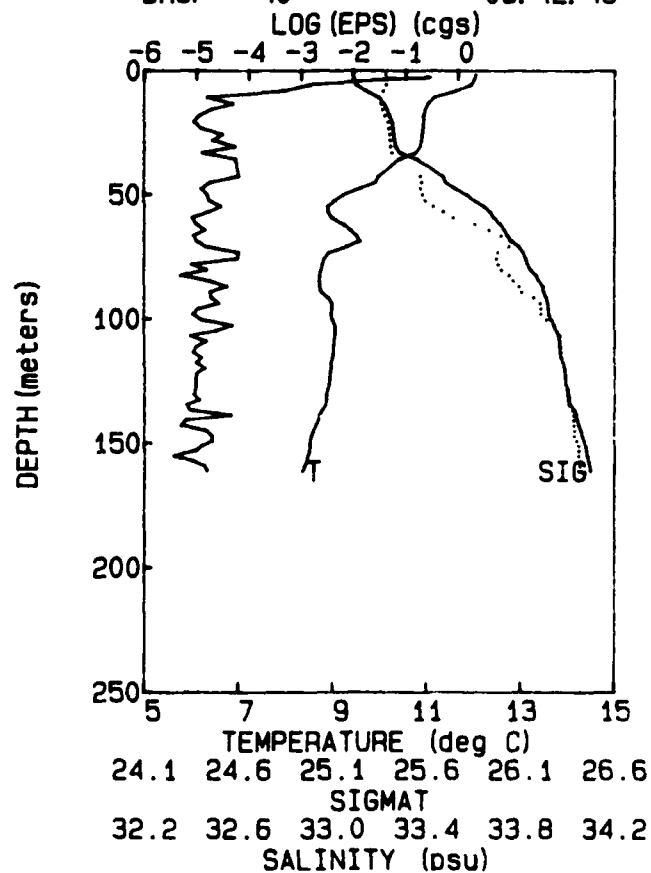
TAPE 154 06-05-87
DROP 38 06: 26: 41



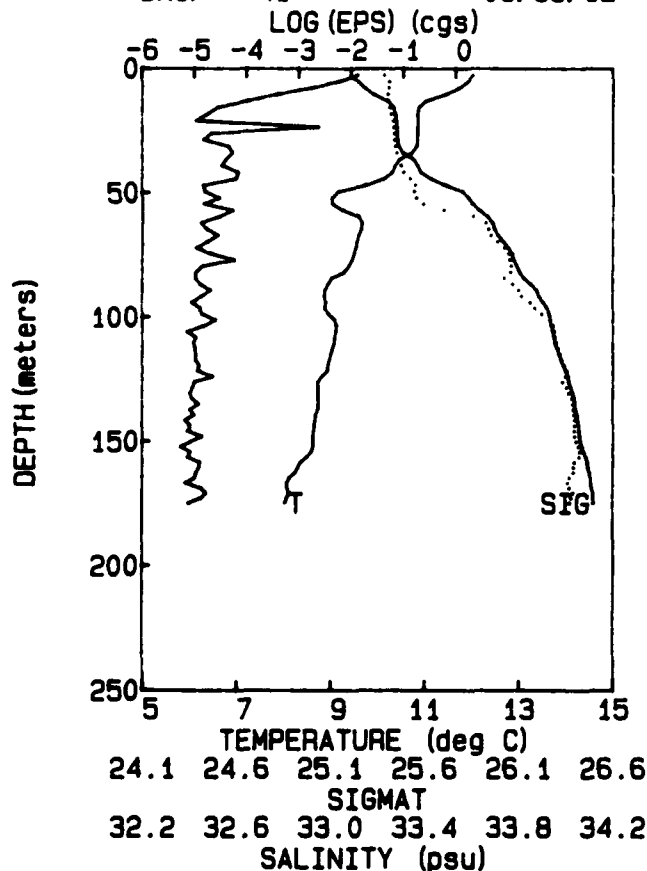
TAPE 154 06-05-87
DROP 39 06: 35: 05



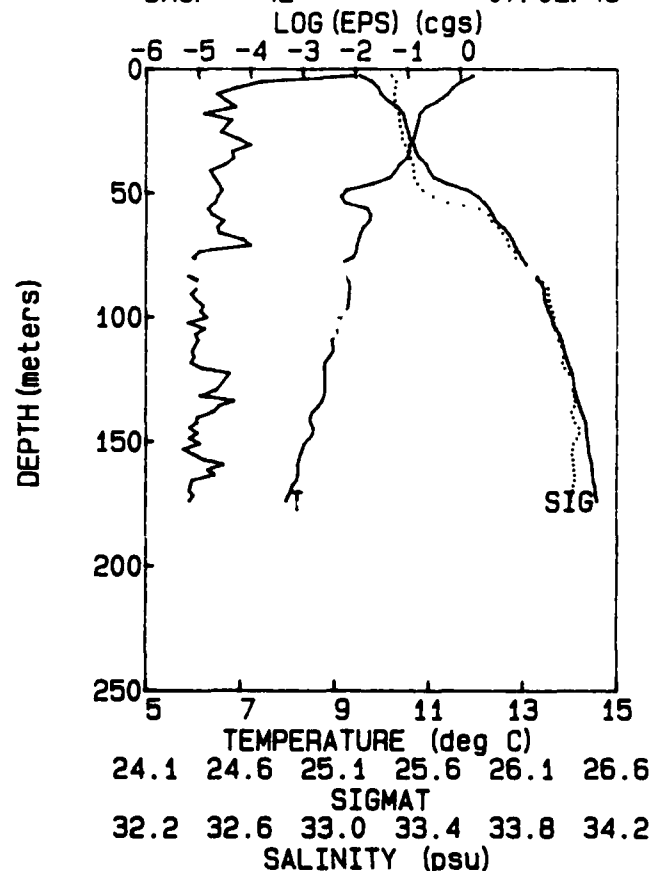
TAPE 154 06-05-87
DROP 40 06: 42: 49



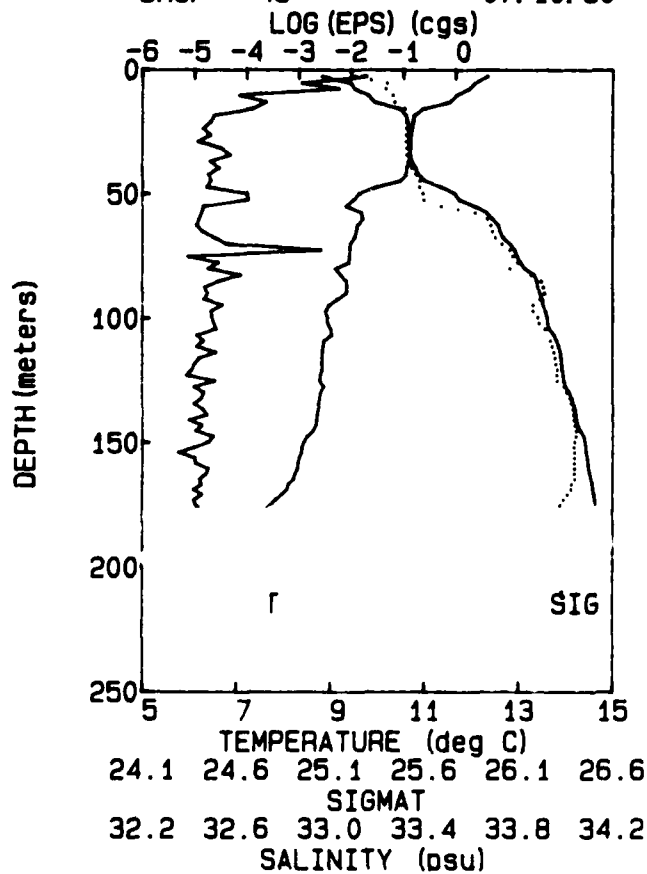
TAPE 154 06-05-87
DROP 41 06: 55: 12



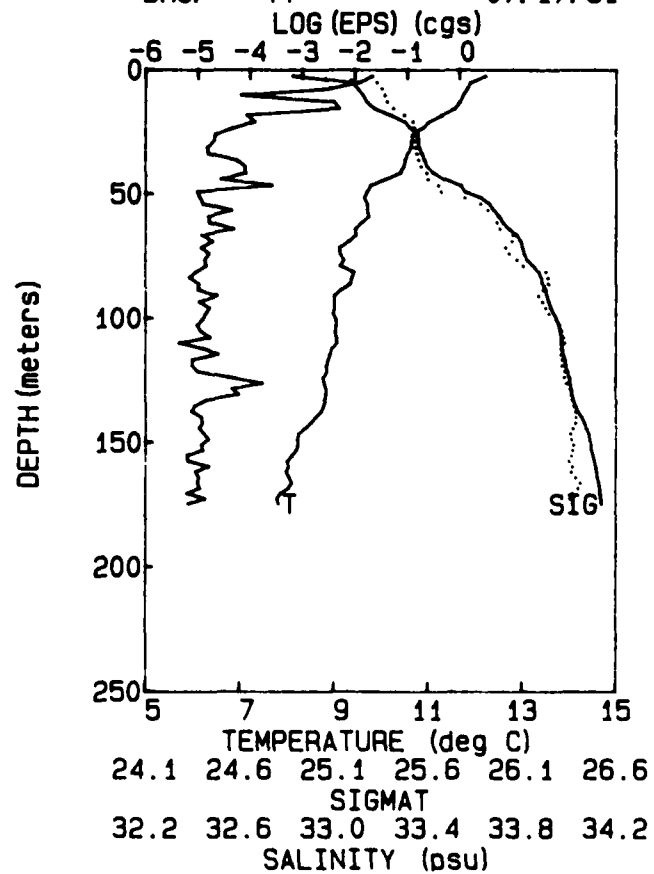
TAPE 154 06-05-87
DROP 42 07: 02: 46



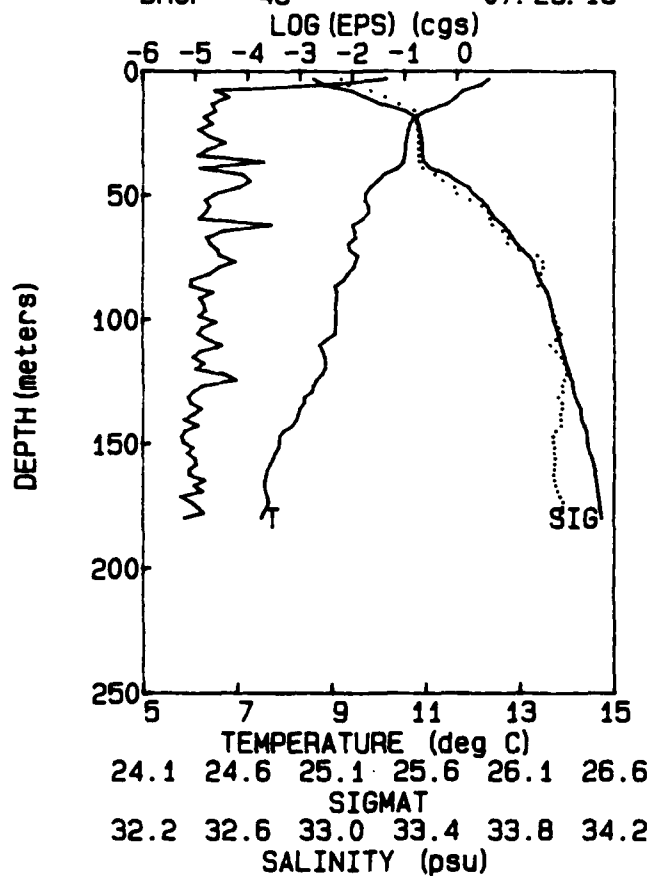
TAPE 154 06-05-87
DROP 43 07: 10: 30



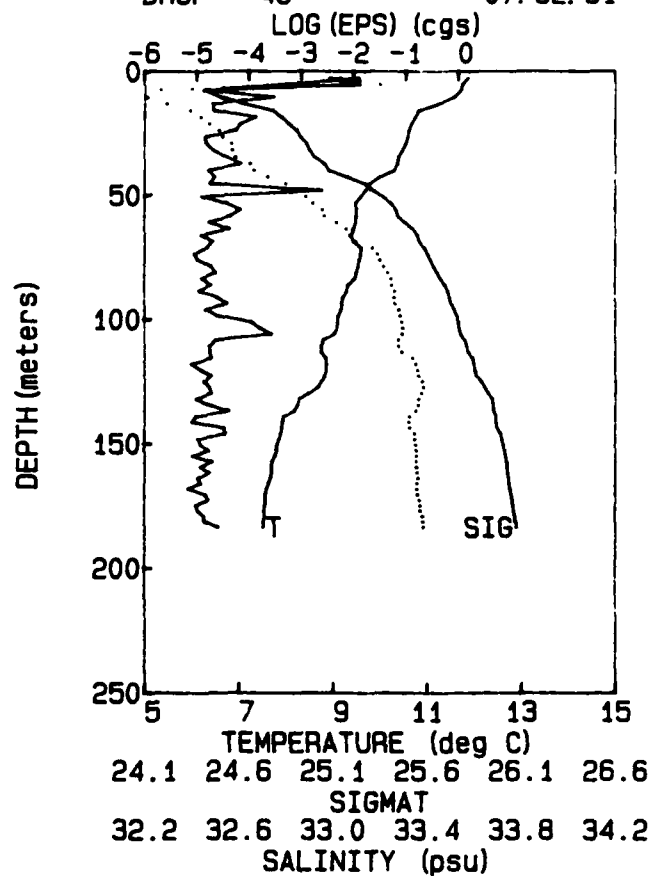
TAPE 154 06-05-87
DROP 44 07: 17: 51



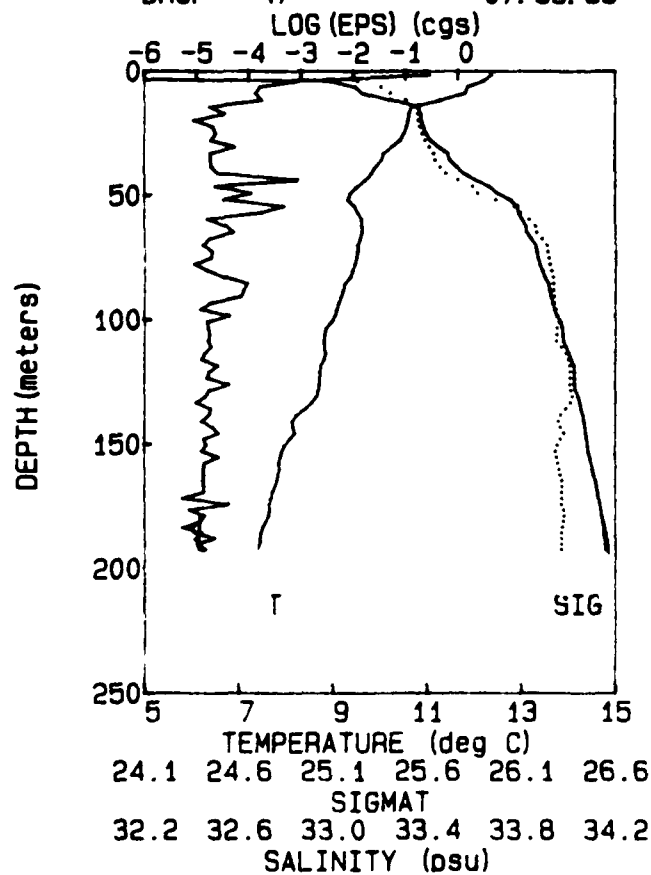
TAPE 154 06-05-87
DROP 45 07: 25: 13



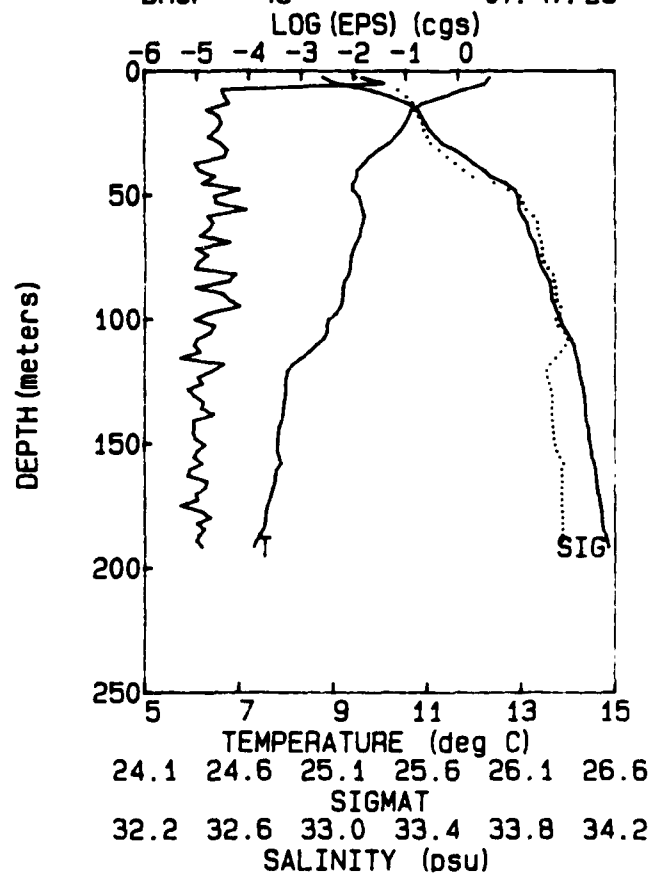
TAPE 154 06-05-87
DROP 46 07: 32: 31



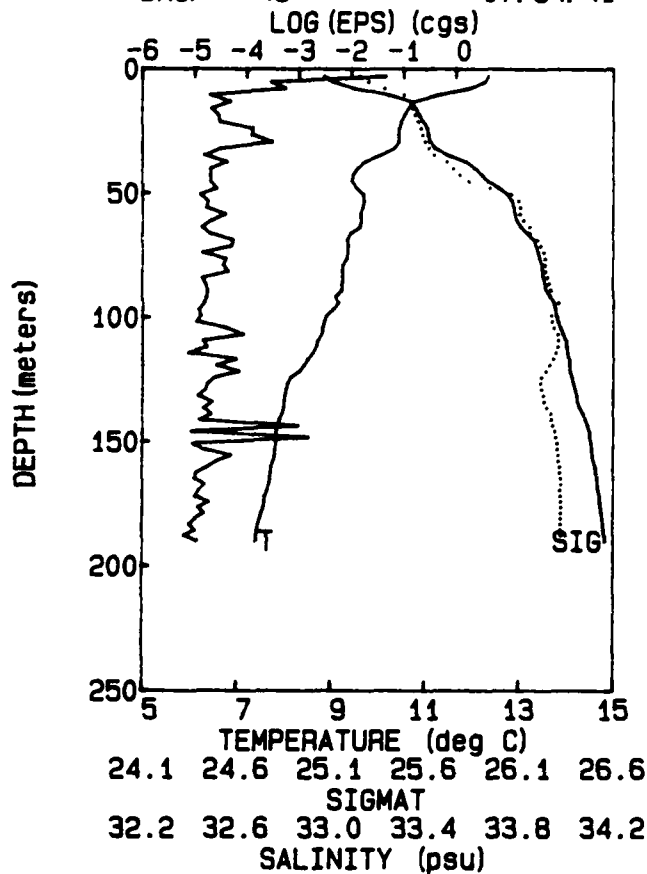
TAPE 154 06-05-87
DROP 47 07: 39: 59



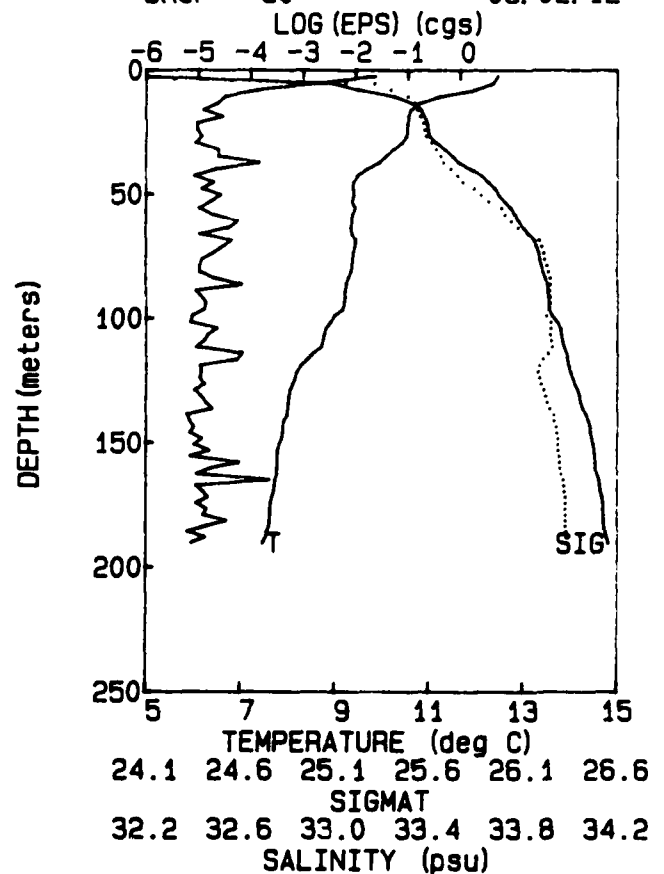
TAPE 154 06-05-87
DROP 48 07: 47: 23



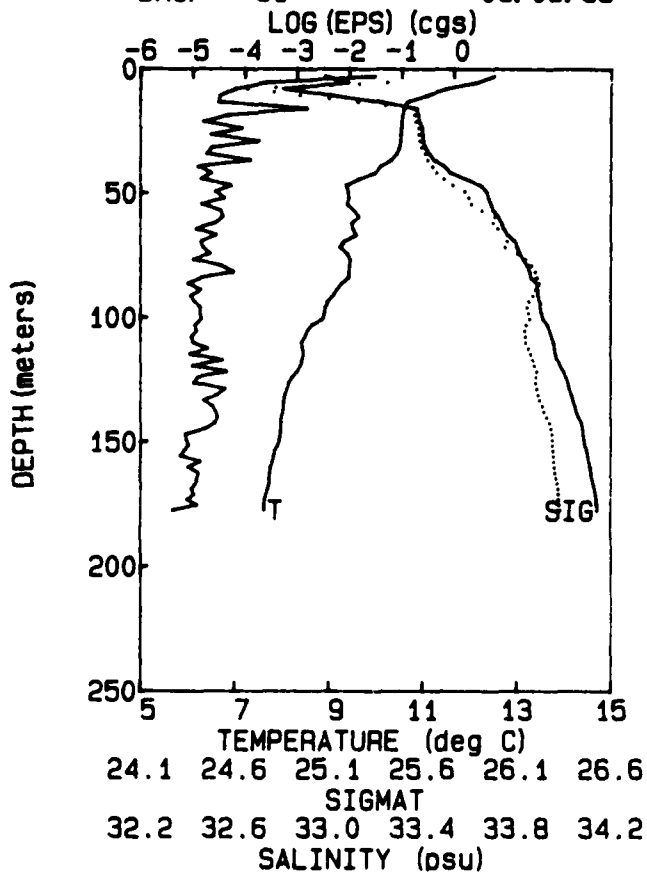
TAPE 154 06-05-87
 DROP 49 07: 54: 41



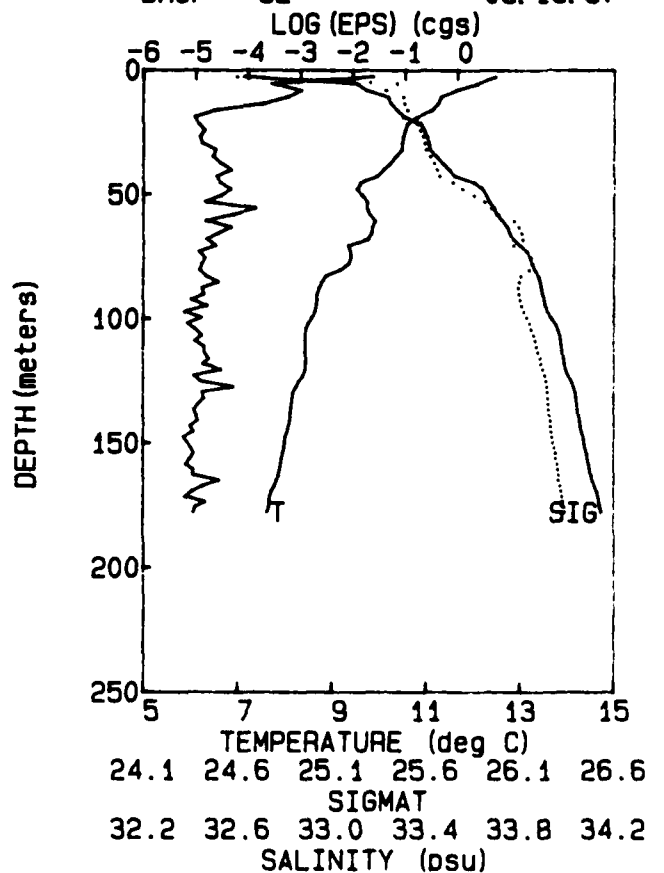
TAPE 154 06-05-87
 DROP 50 08: 02: 12

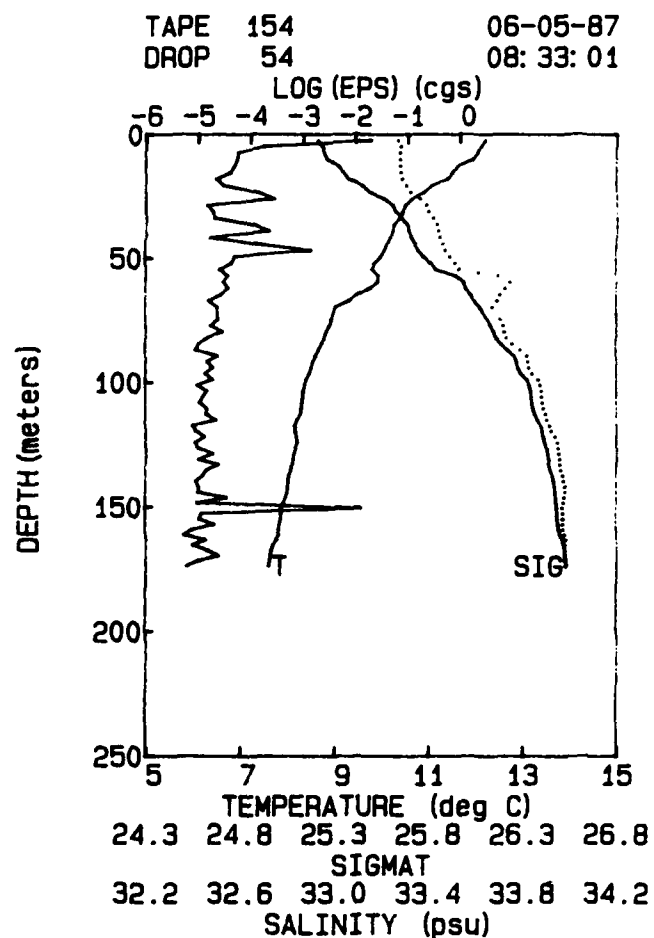
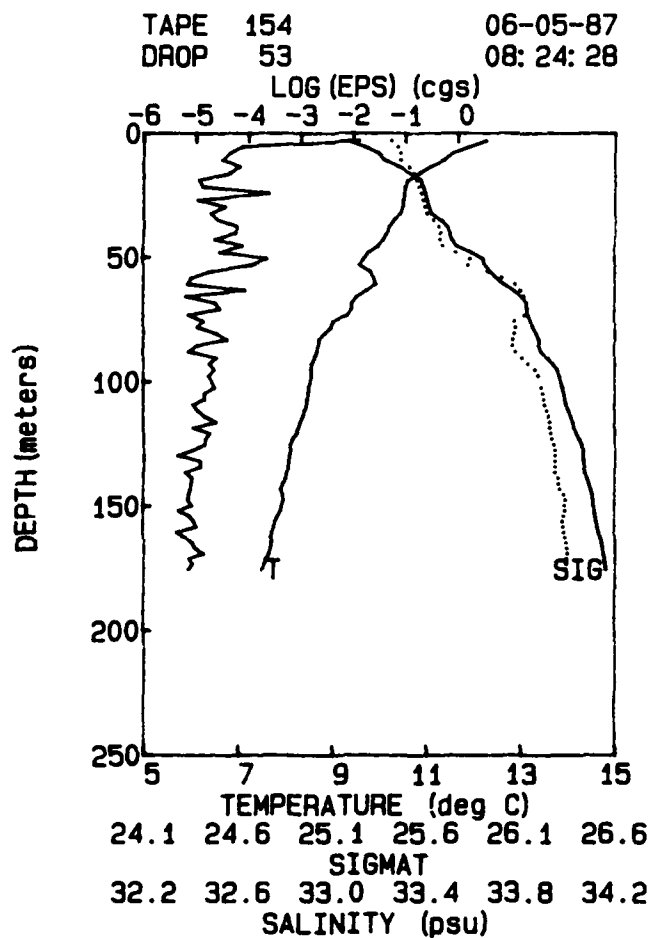


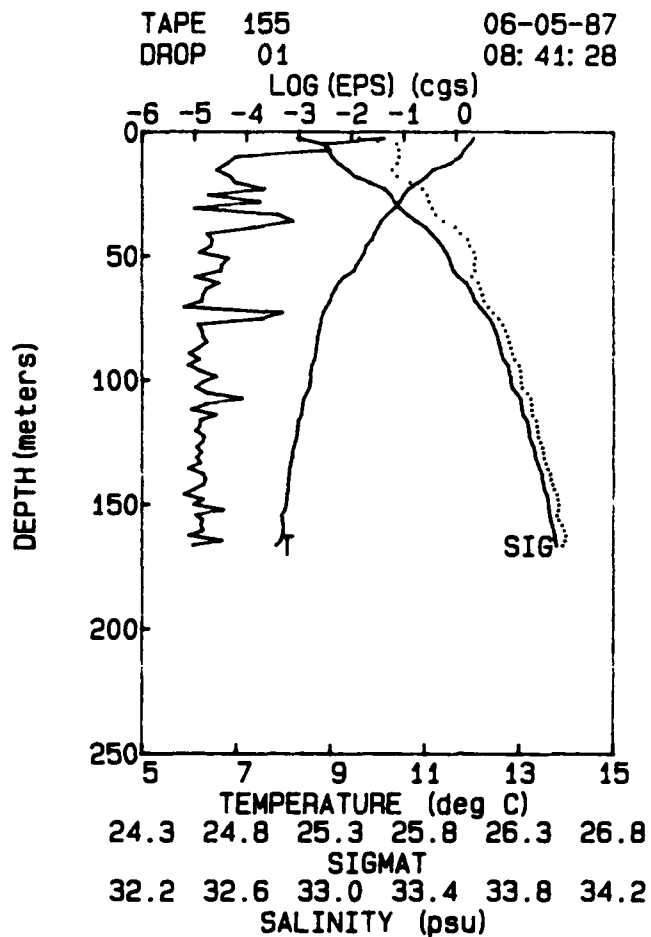
TAPE 154 06-05-87
 DROP 51 08: 09: 33



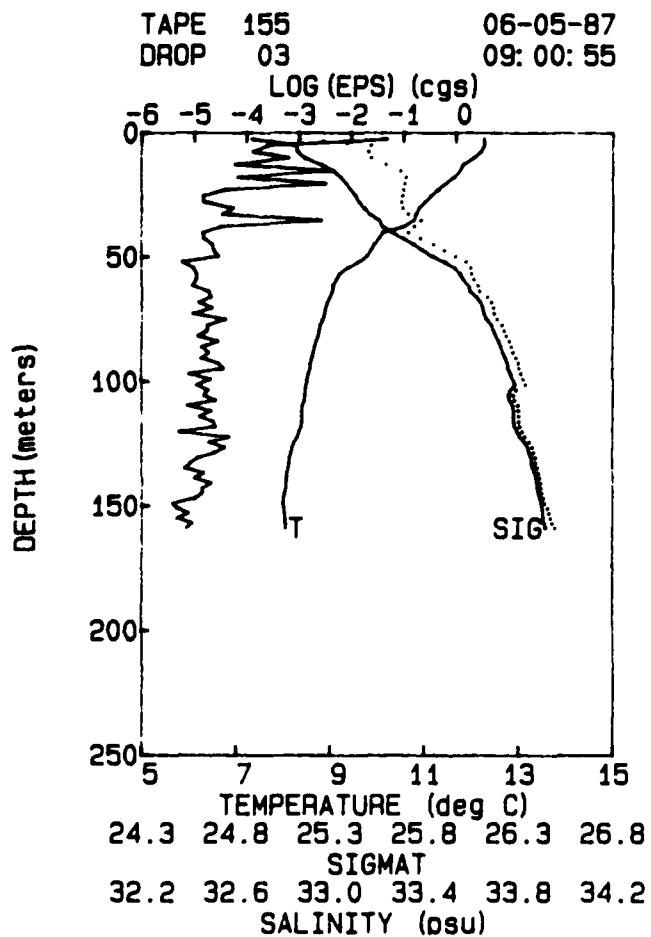
TAPE 154 06-05-87
 DROP 52 08: 16: 57



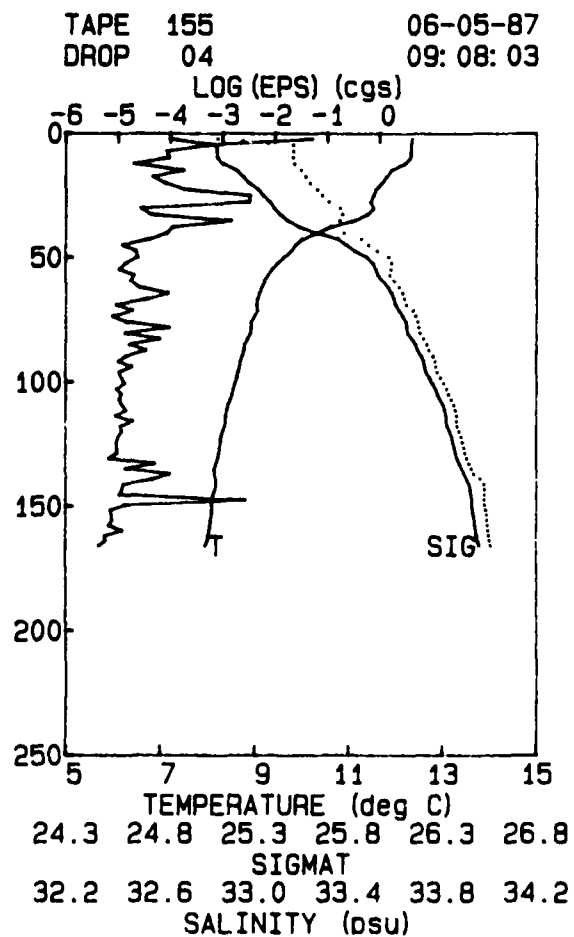




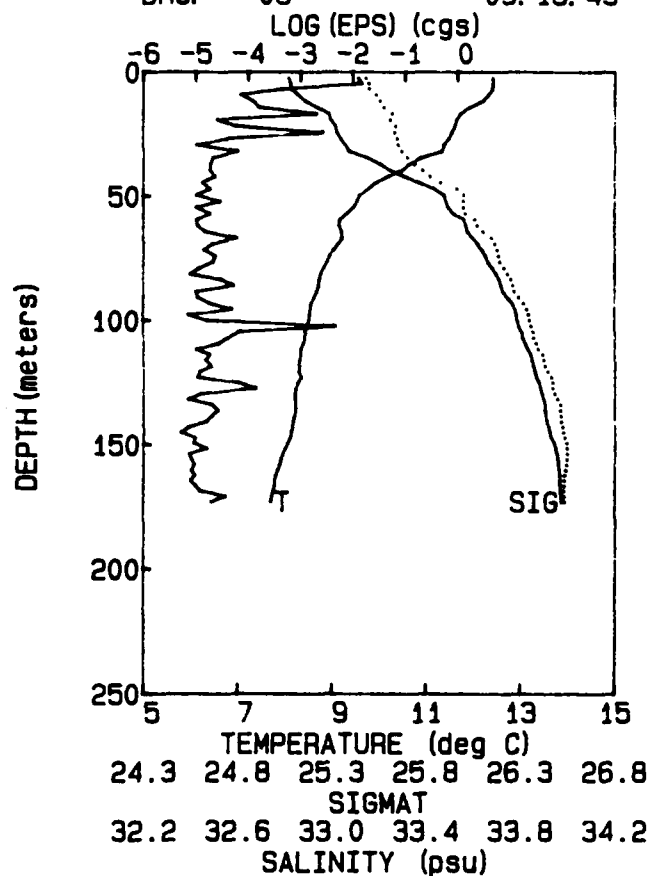
DEPTH (meters)



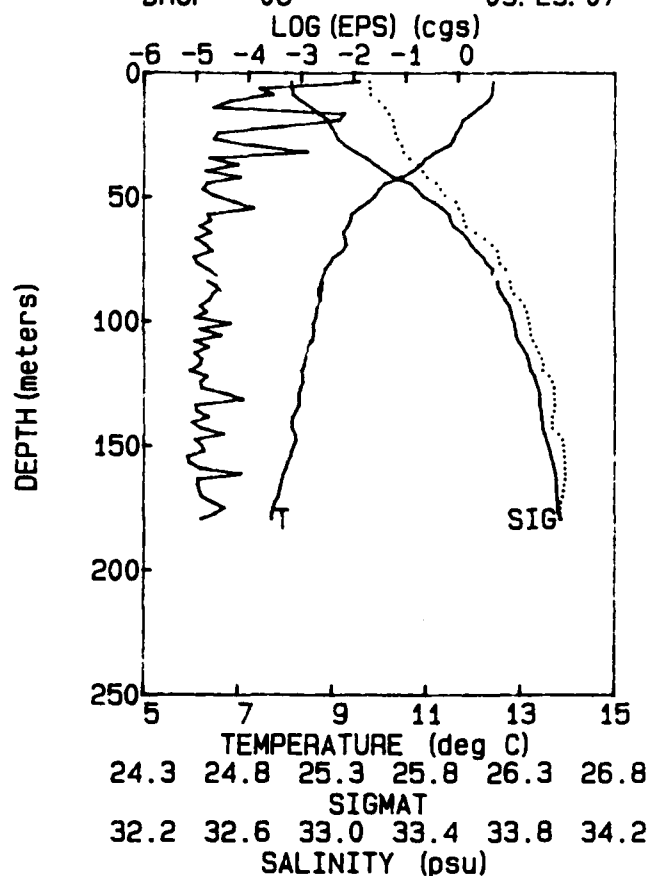
DEPTH (meters)



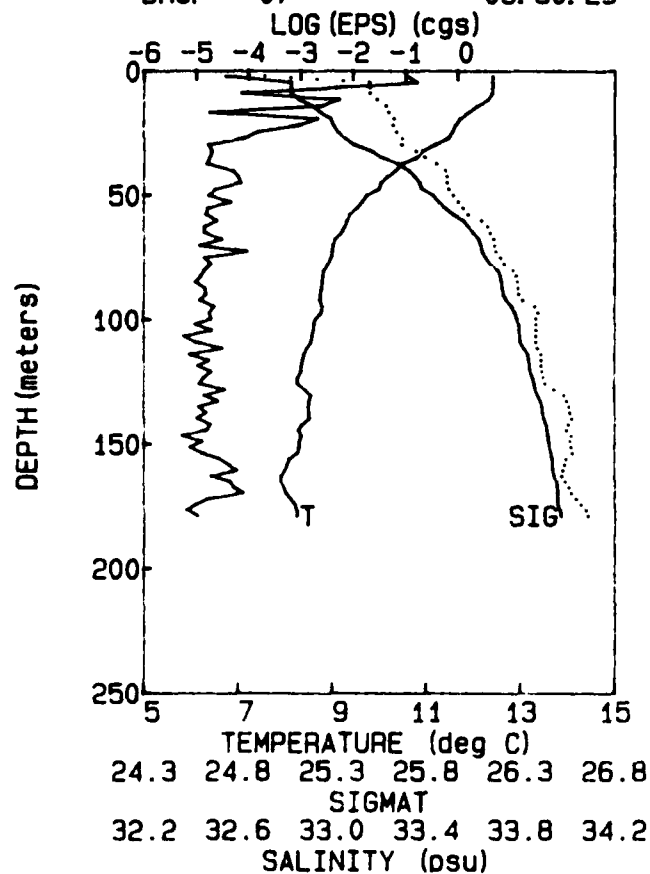
TAPE 155 06-05-87
DROP 05 09: 15: 43



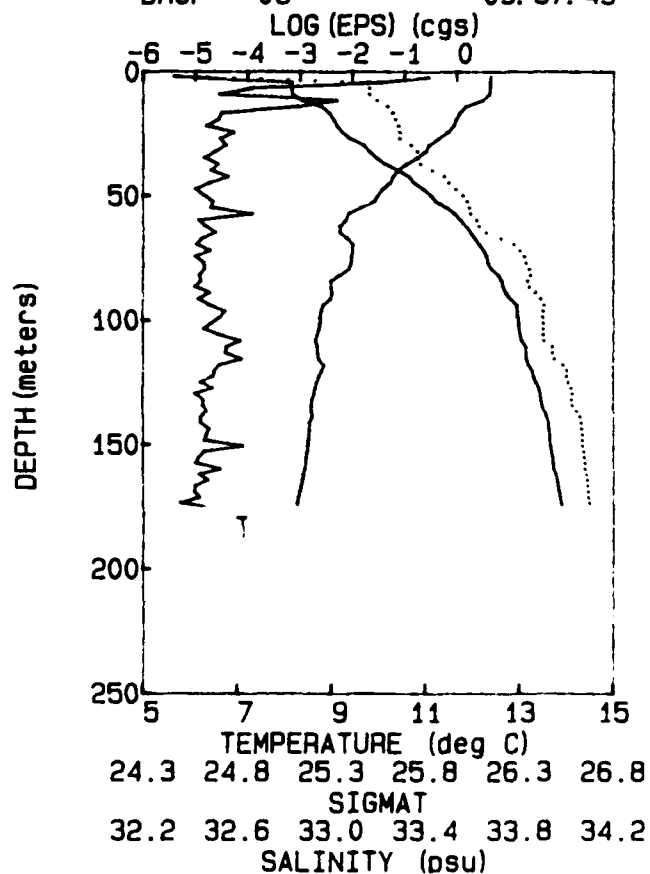
TAPE 155 06-05-87
DROP 06 09: 23: 07



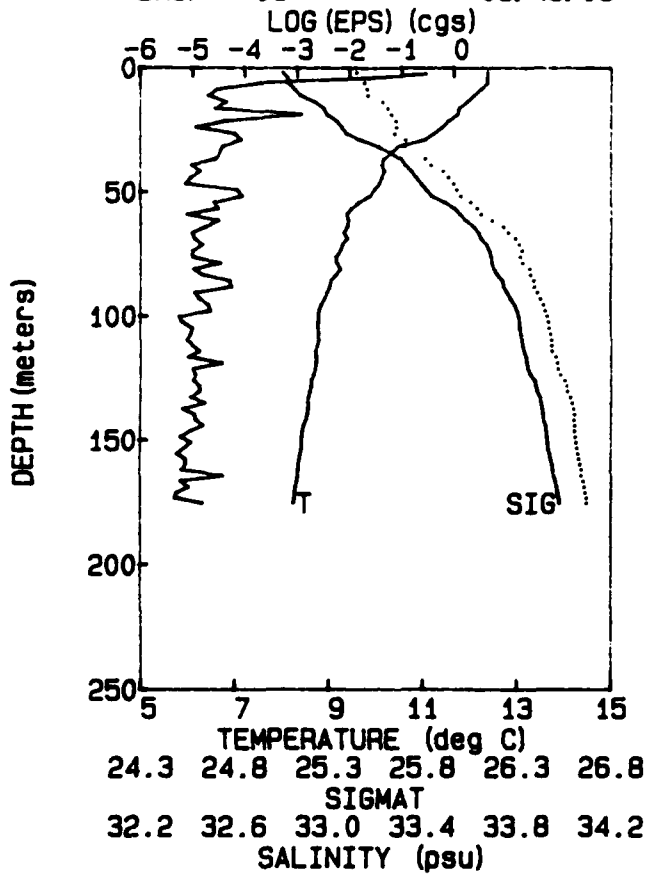
TAPE 155 06-05-87
DROP 07 09: 30: 29



TAPE 155 06-05-87
DROP 08 09: 37: 49

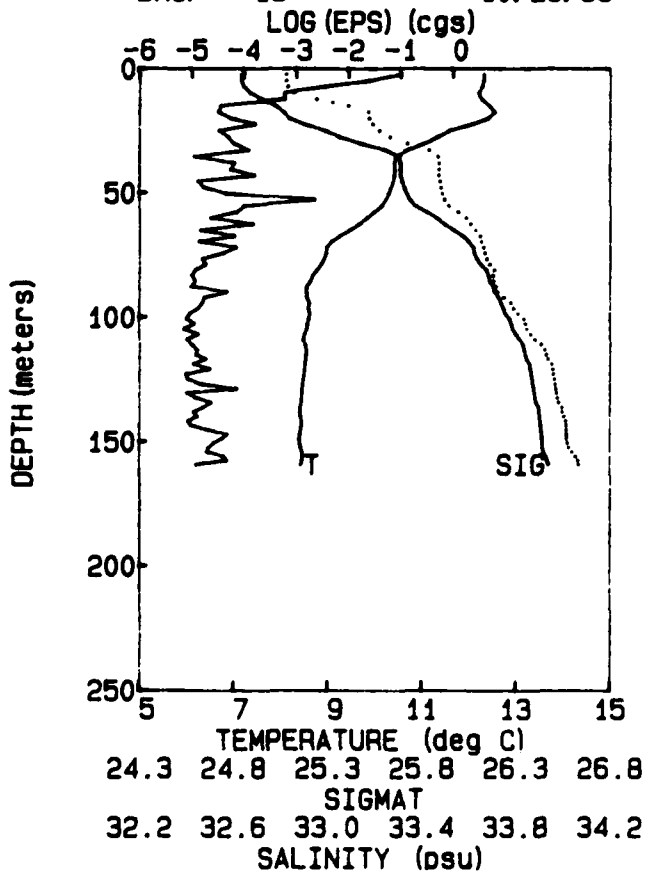


TAPE 155 06-05-87
 DROP 09 09:45:08

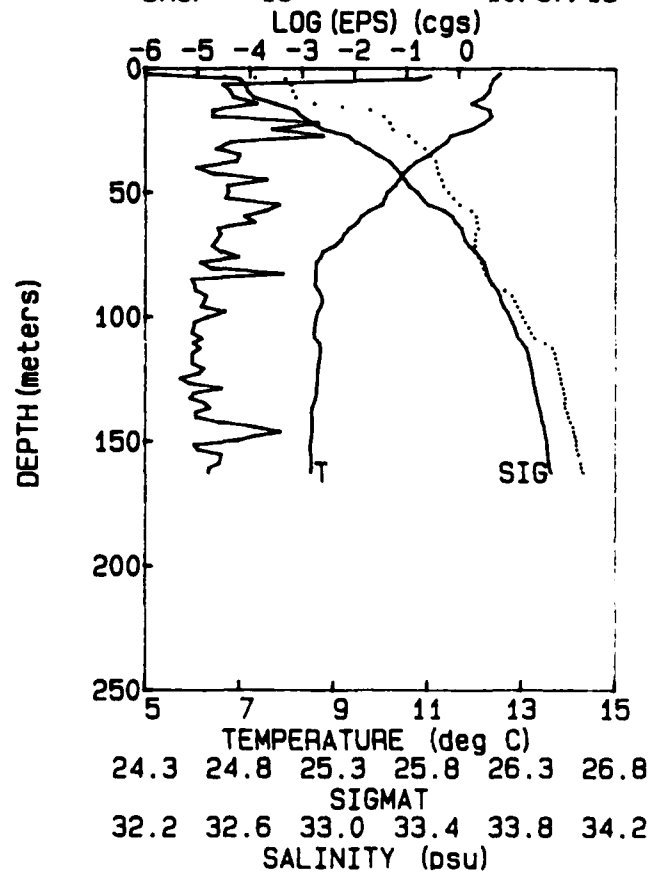


DEPTH (meters)

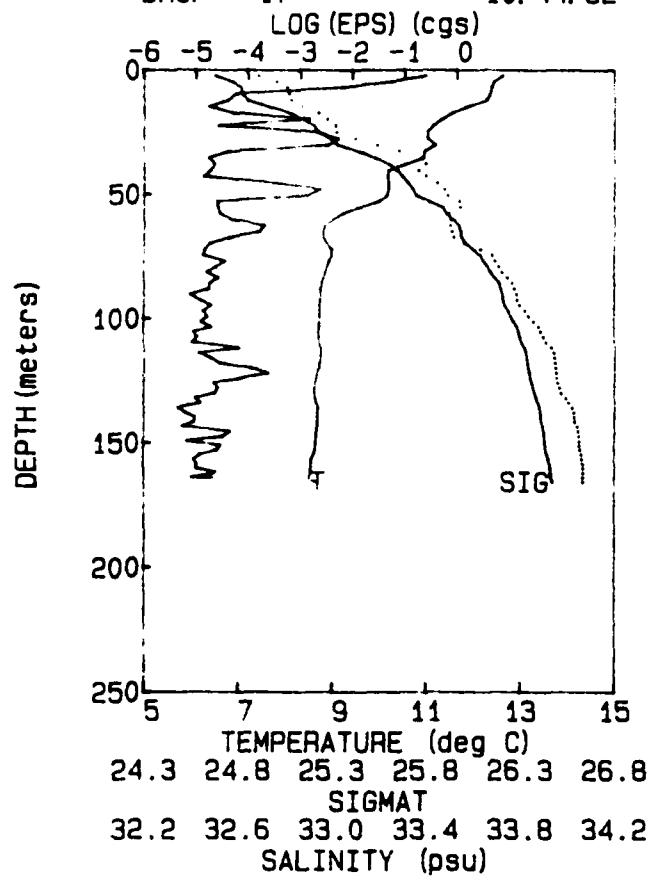
TAPE 155 06-05-87
 DROP 15 10:29:58



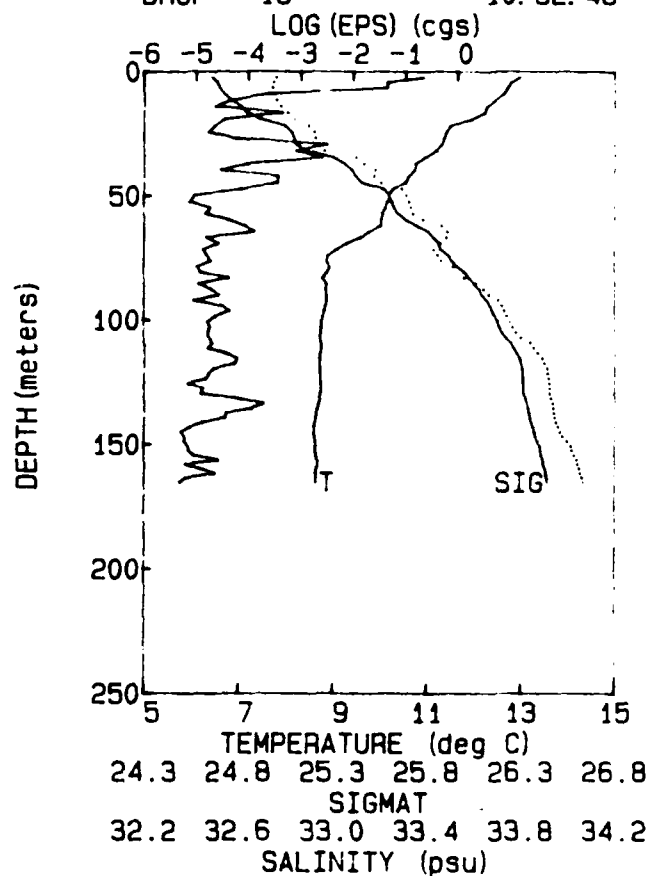
TAPE 155 06-05-87
 DROP 16 10:37:15



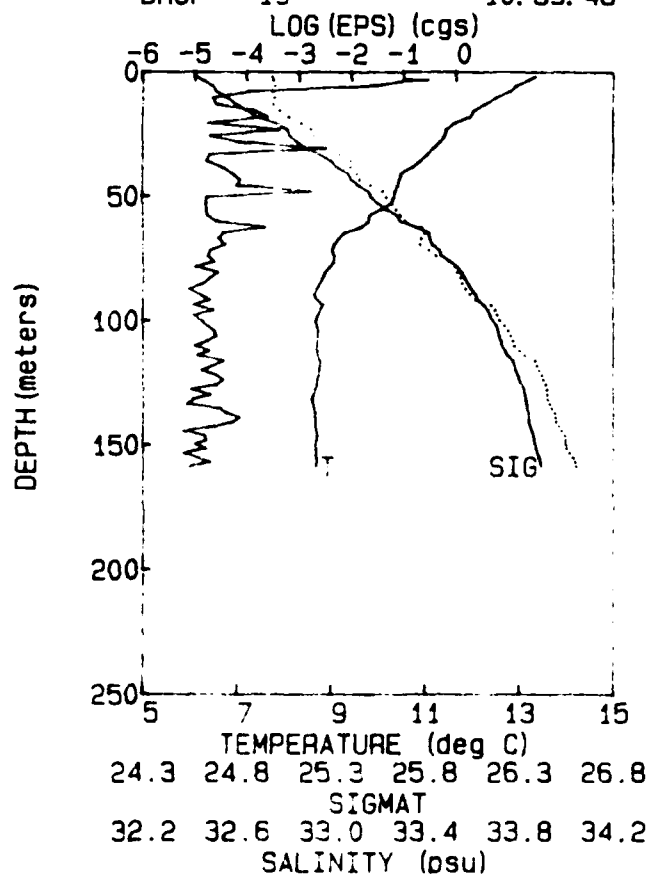
TAPE 155 06-05-87
DROP 17 10:44:52



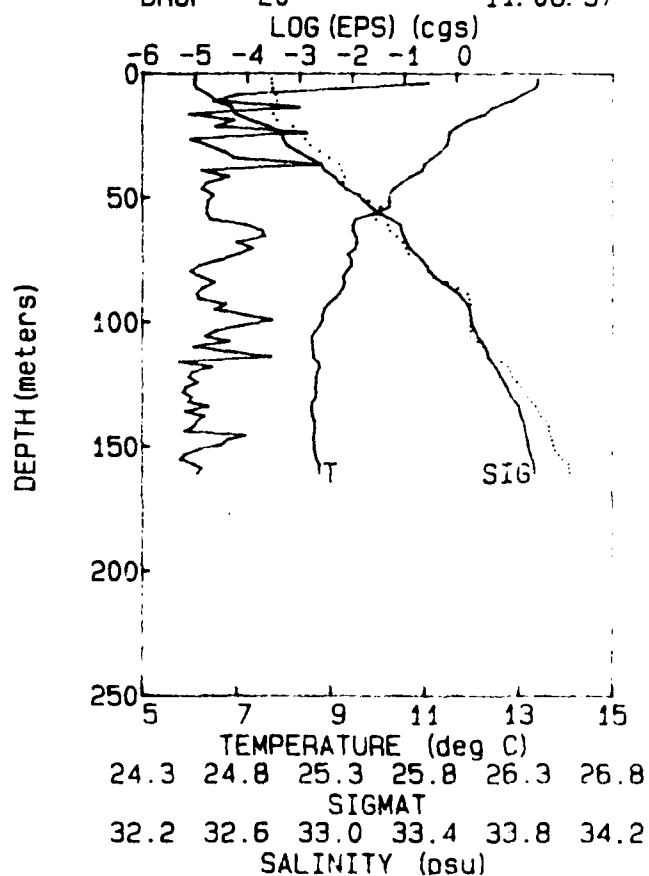
TAPE 155 06-05-87
DROP 18 10:52:48

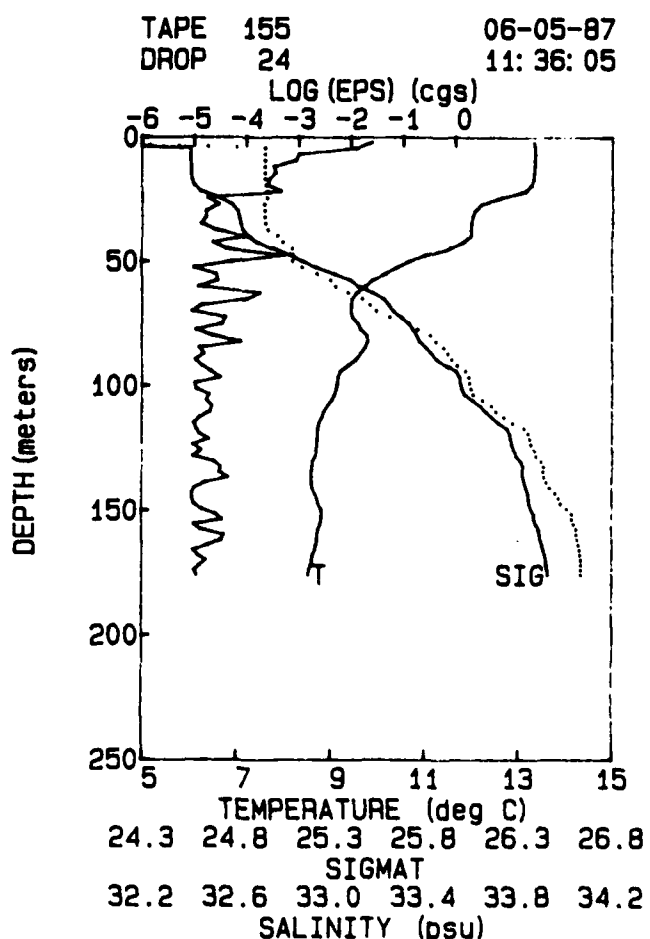
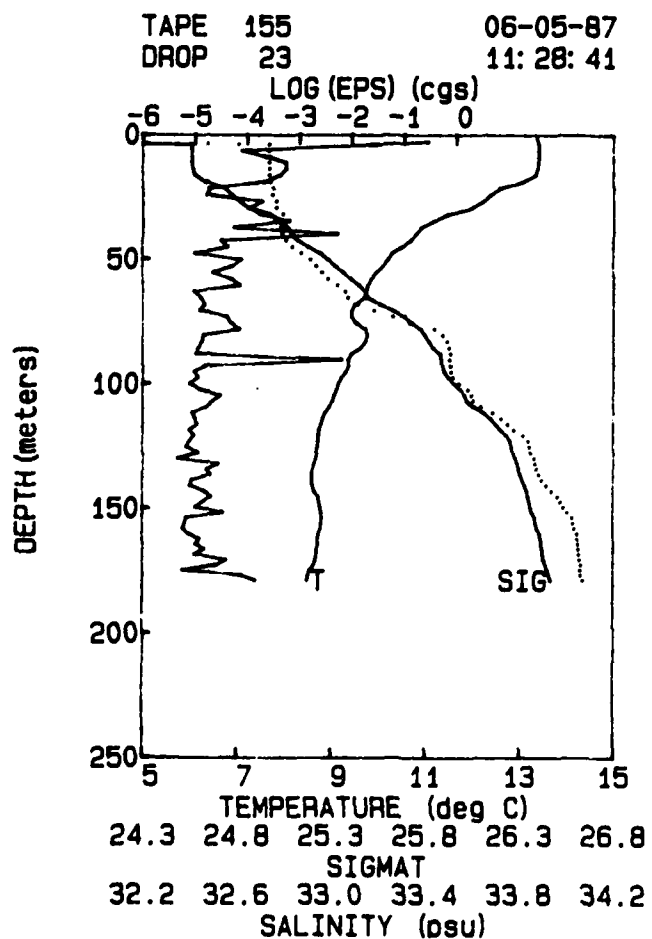
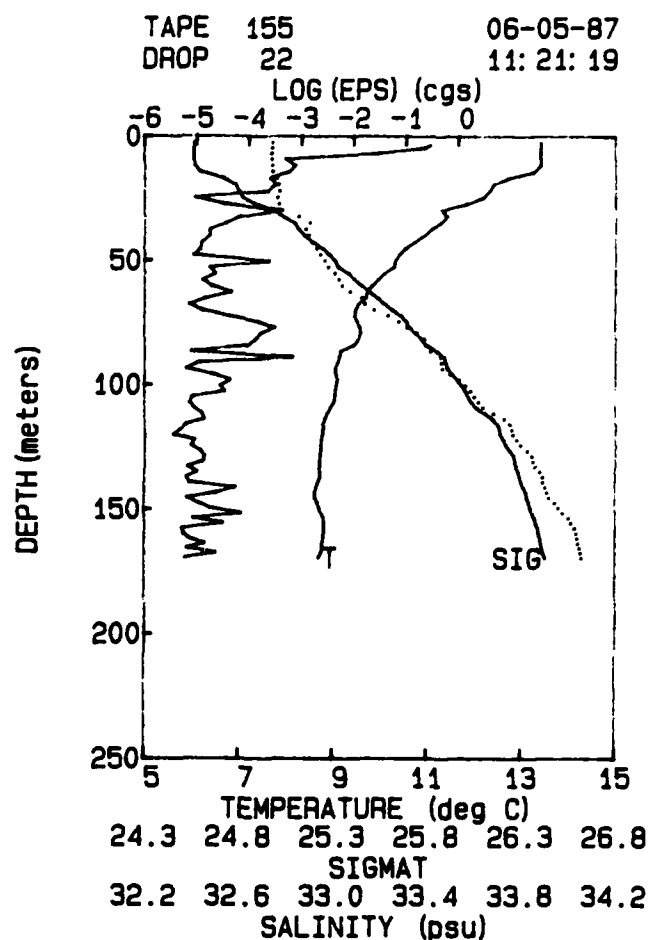
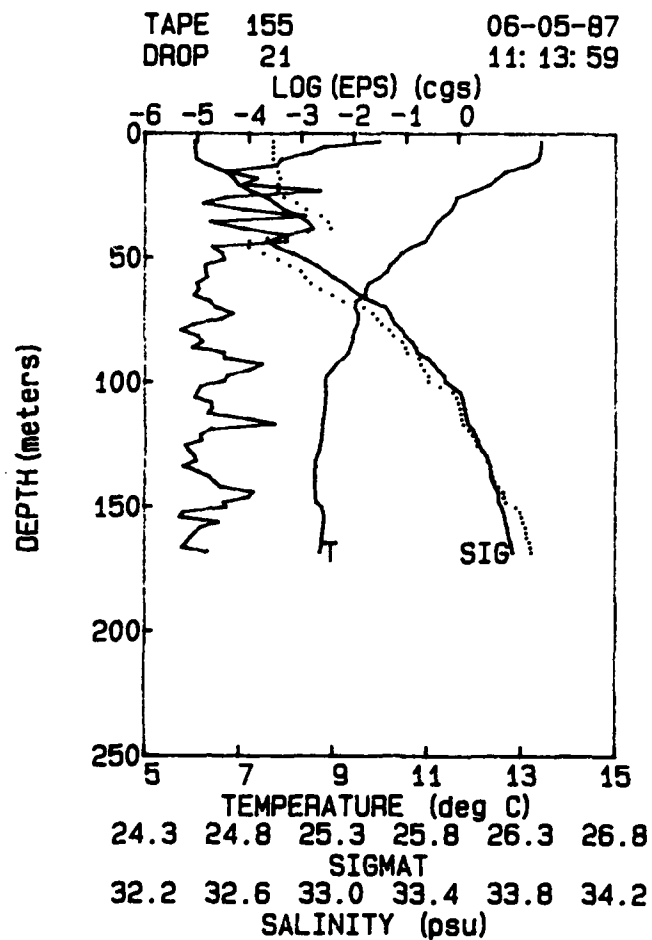


TAPE 155 06-05-87
DROP 13 10:59:48

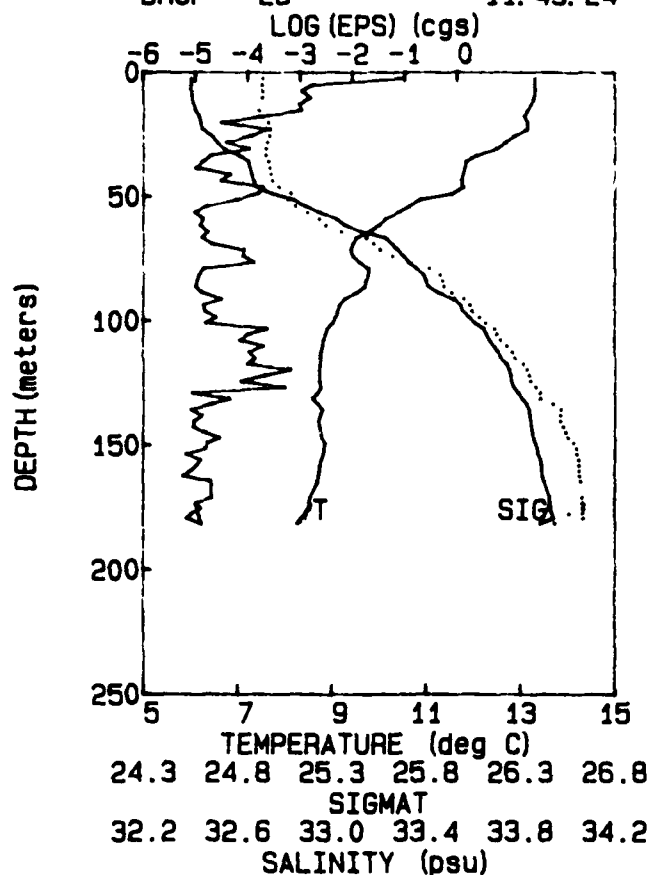


TAPE 155 06-05-87
DROP 20 11:06:57

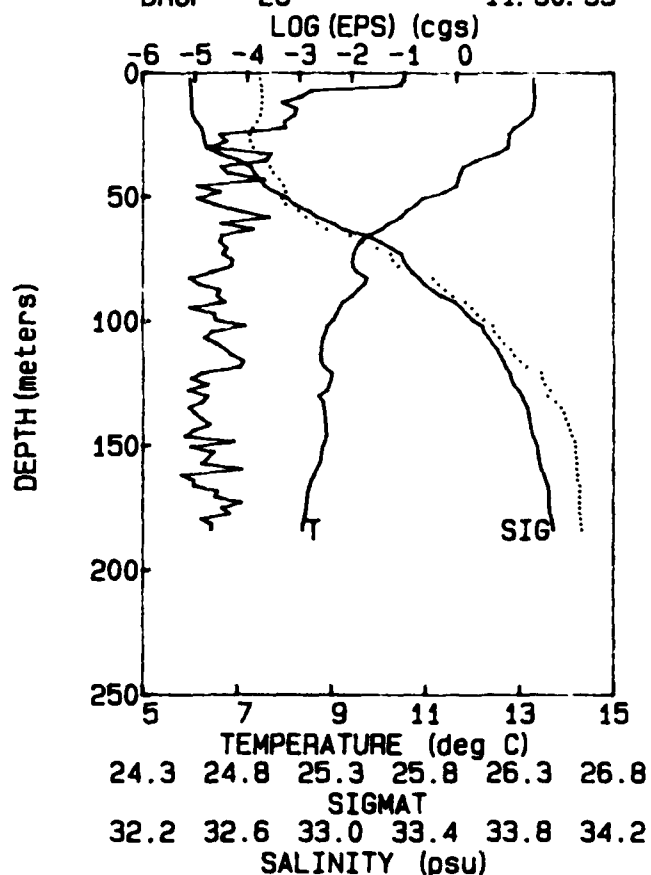




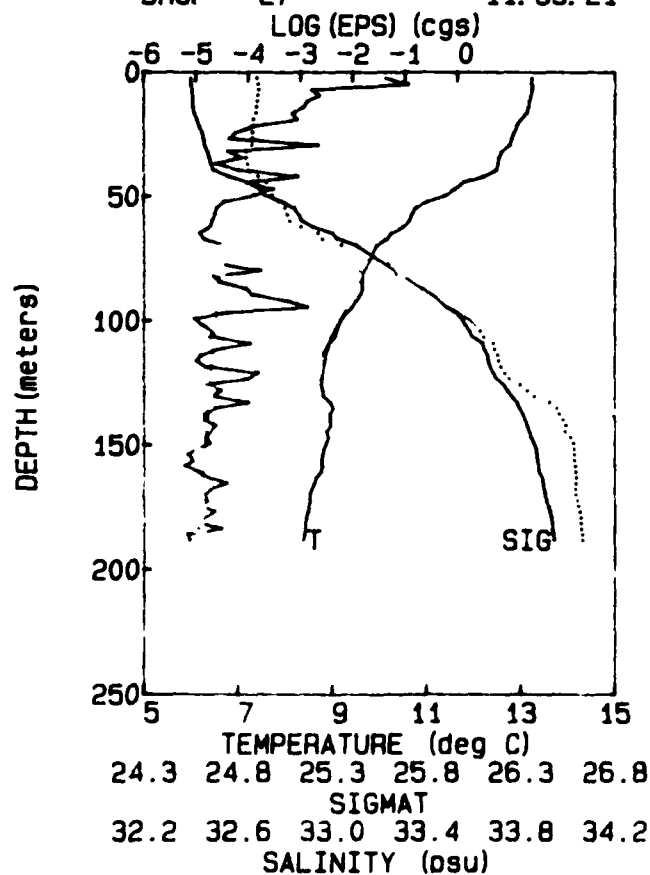
TAPE 155 06-05-87
DROP 25 11:43:24



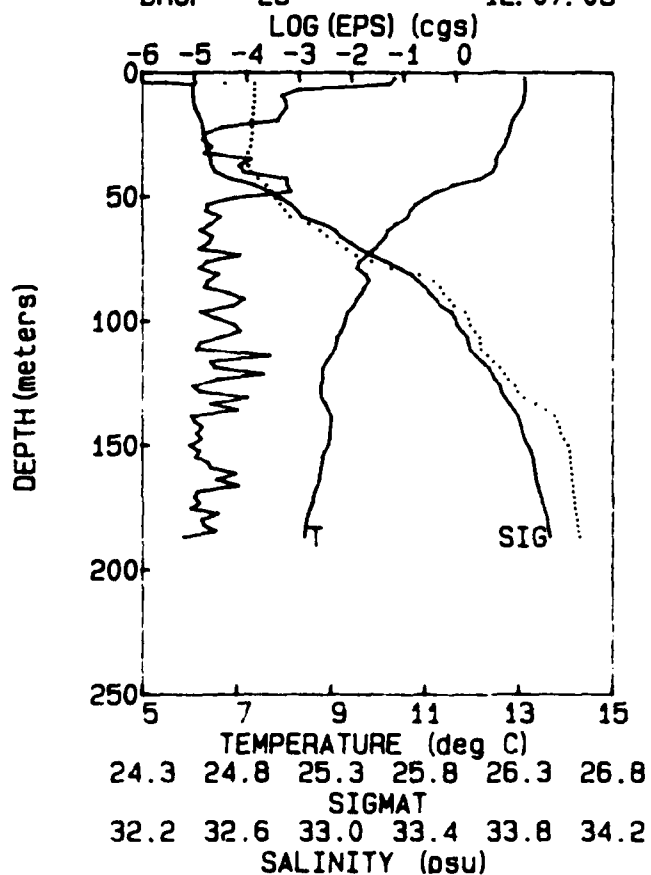
TAPE 155 06-05-87
DROP 26 11:50:55



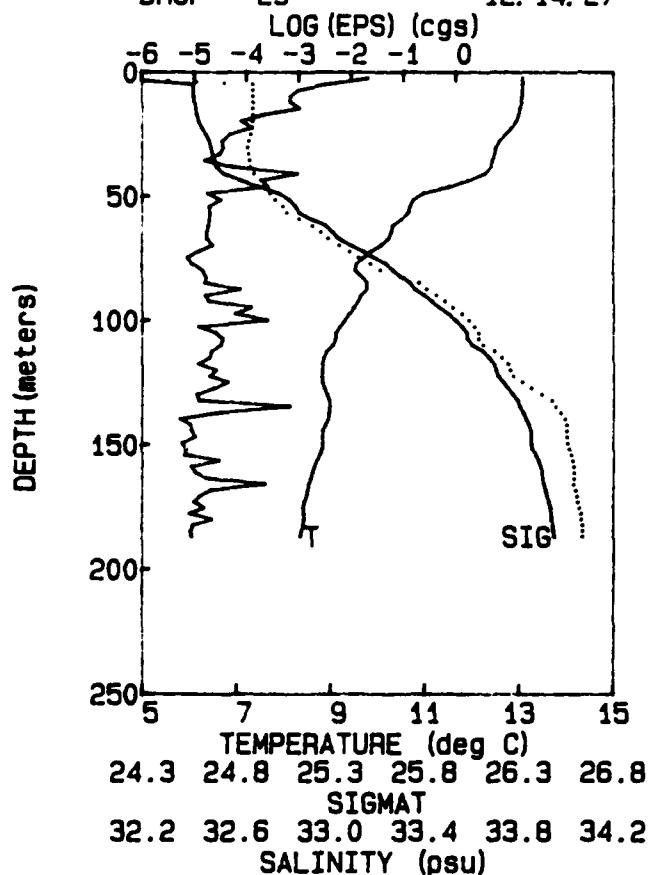
TAPE 155 06-05-87
DROP 27 11:59:21



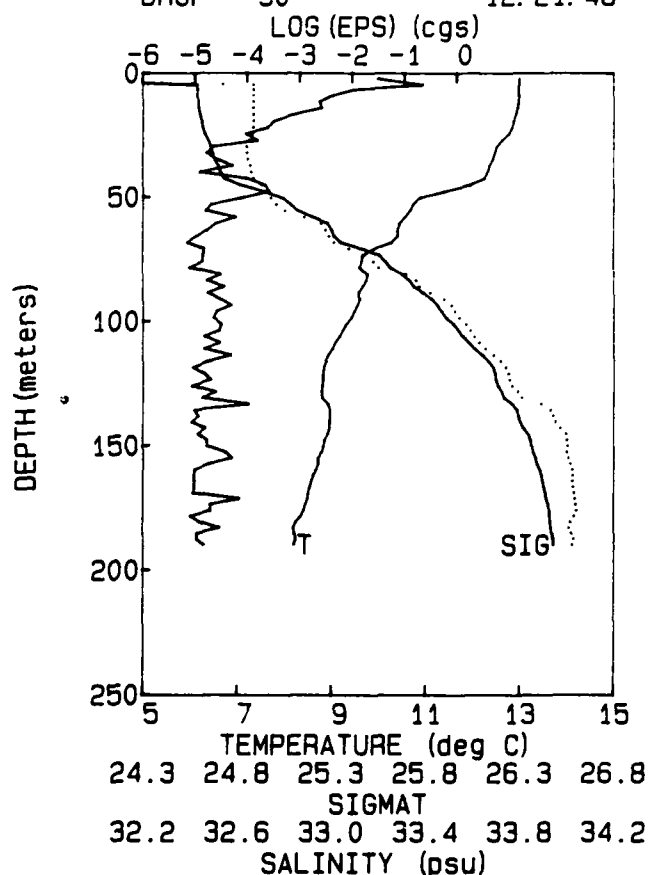
TAPE 155 06-05-87
DROP 28 12:07:05



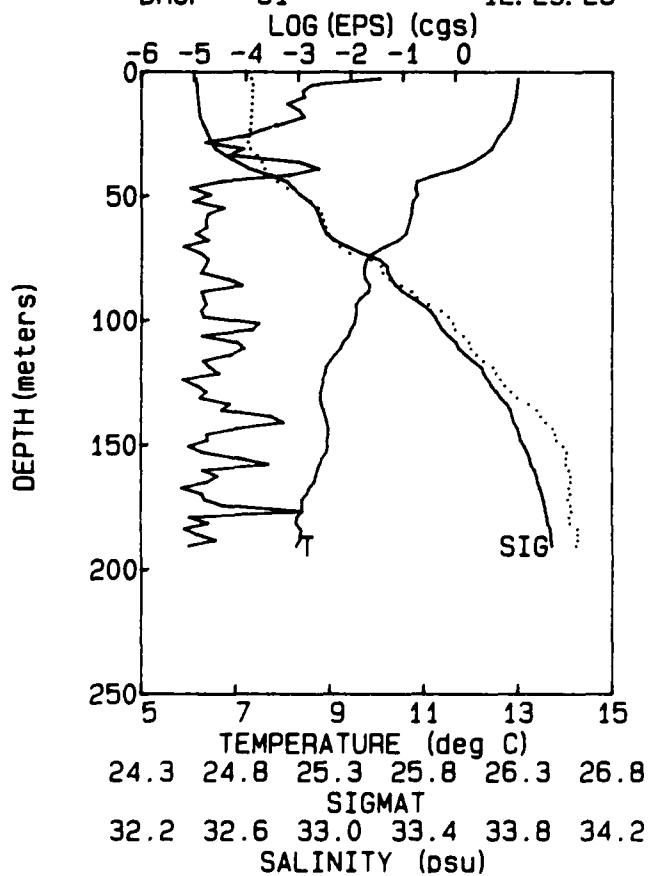
TAPE 155 06-05-87
DROP 29 12:14:27



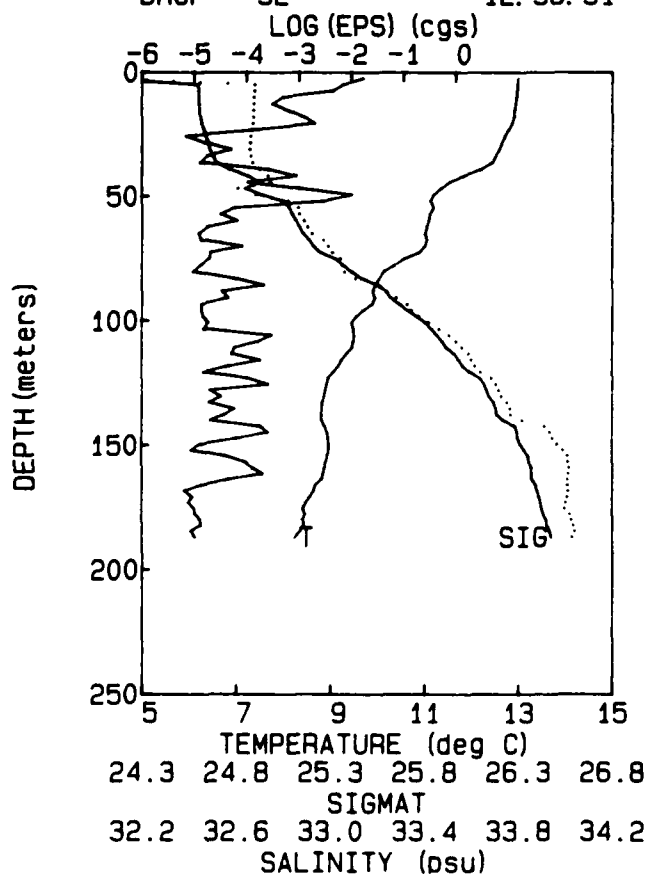
TAPE 155 06-05-87
DROP 30 12:21:48



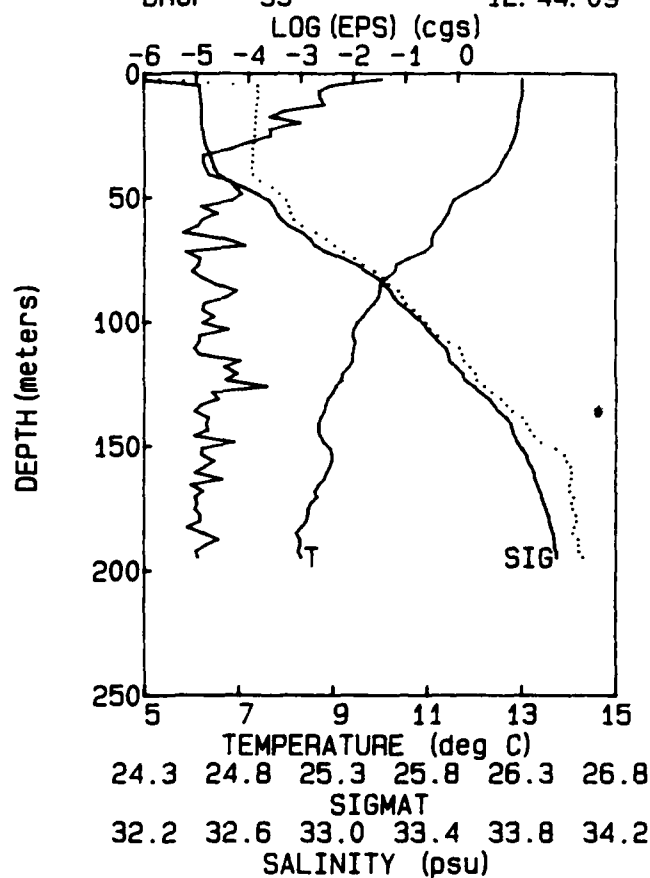
TAPE 155 06-05-87
DROP 31 12:29:28



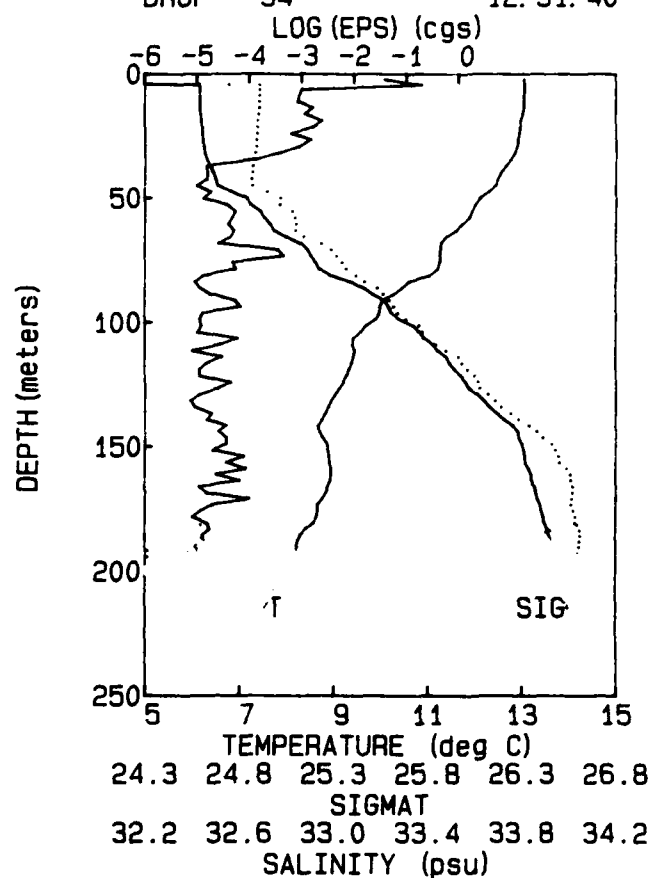
TAPE 155 06-05-87
DROP 32 12:36:51



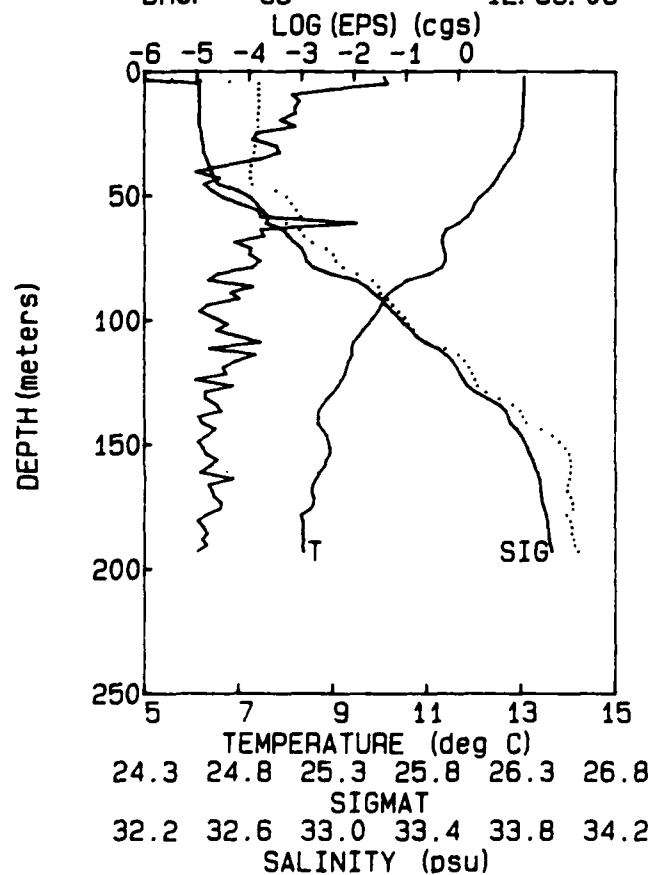
TAPE 155 06-05-87
DROP 33 12: 44: 09



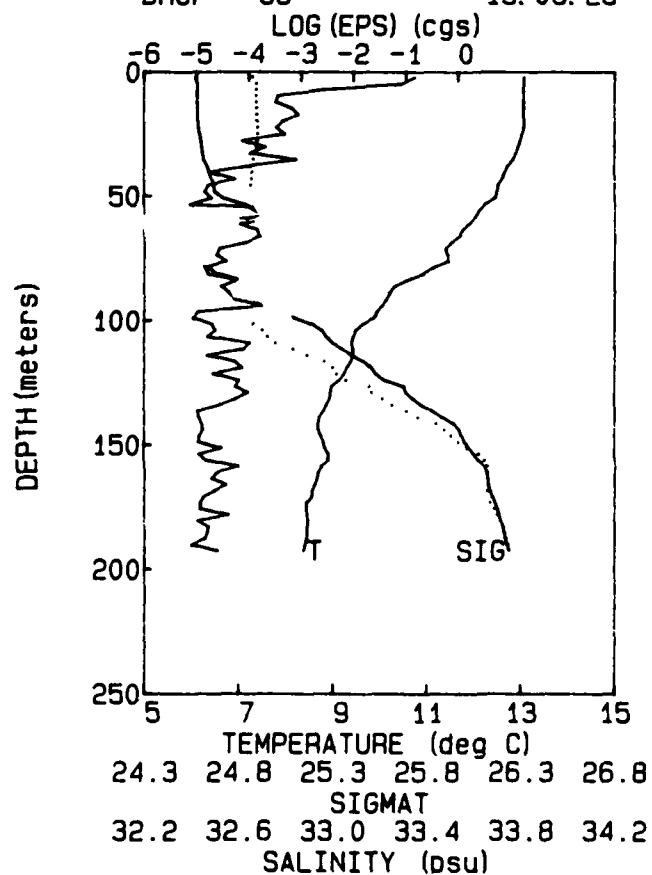
TAPE 155 06-05-87
DROP 34 12: 51: 40

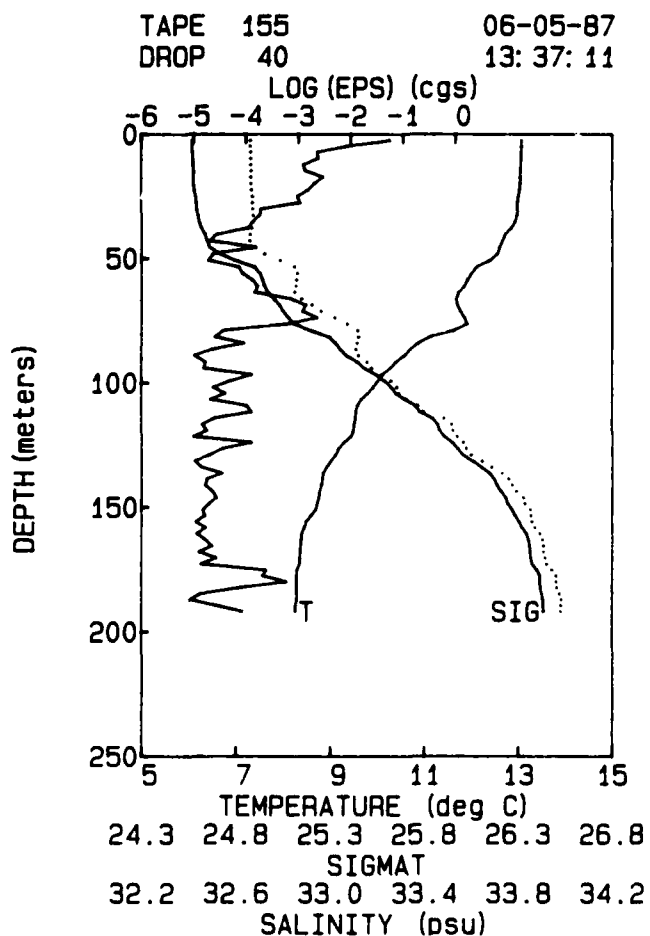
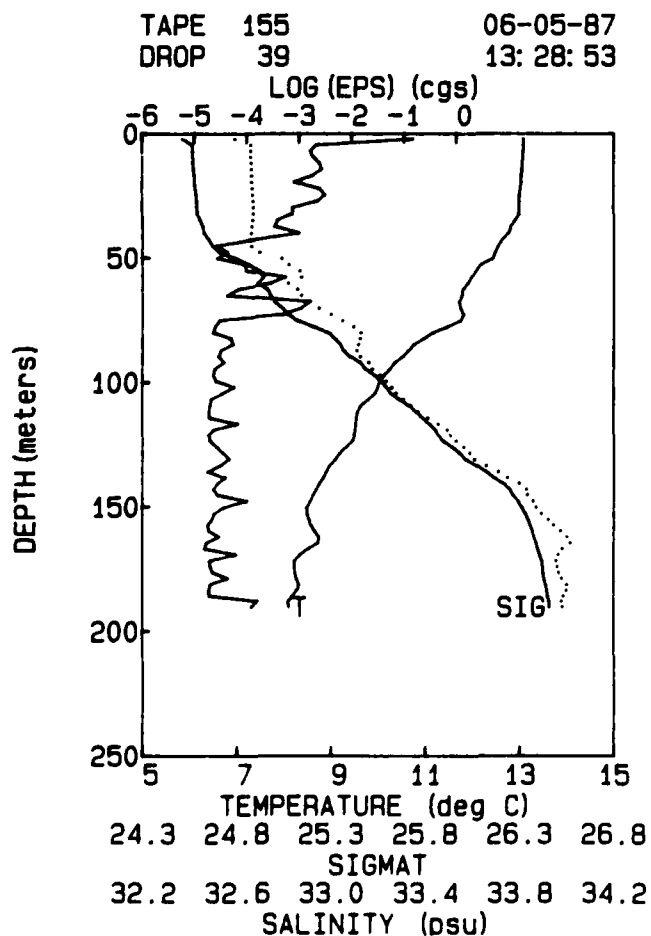
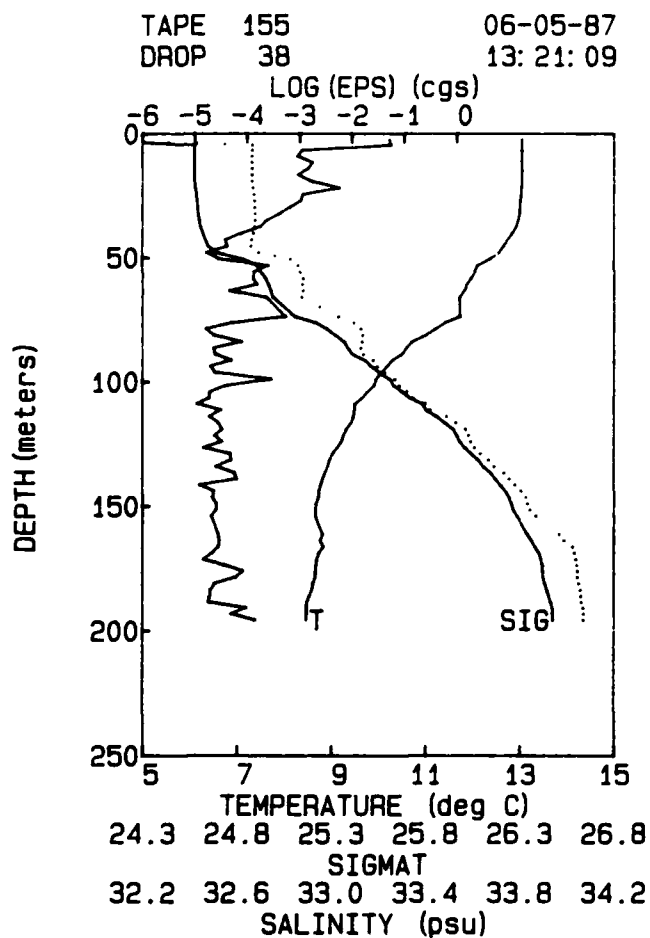
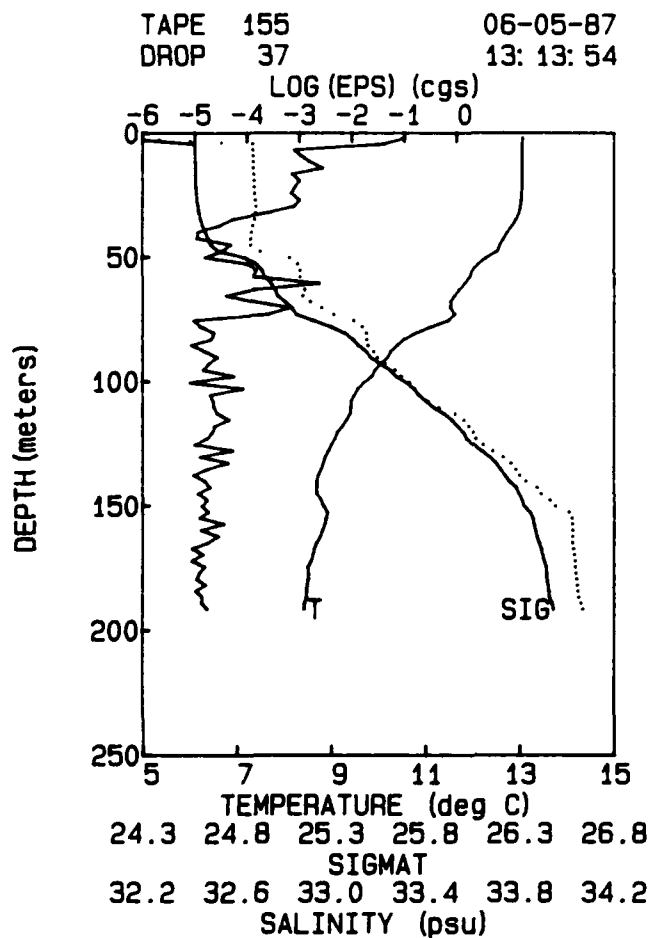


TAPE 155 06-05-87
DROP 35 12: 59: 06



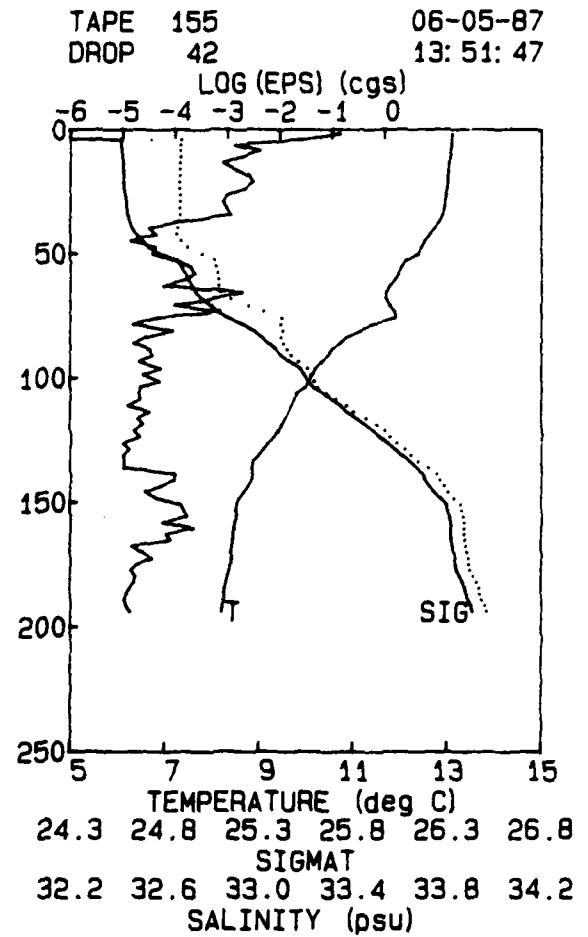
TAPE 155 06-05-87
DROP 36 13: 06: 28



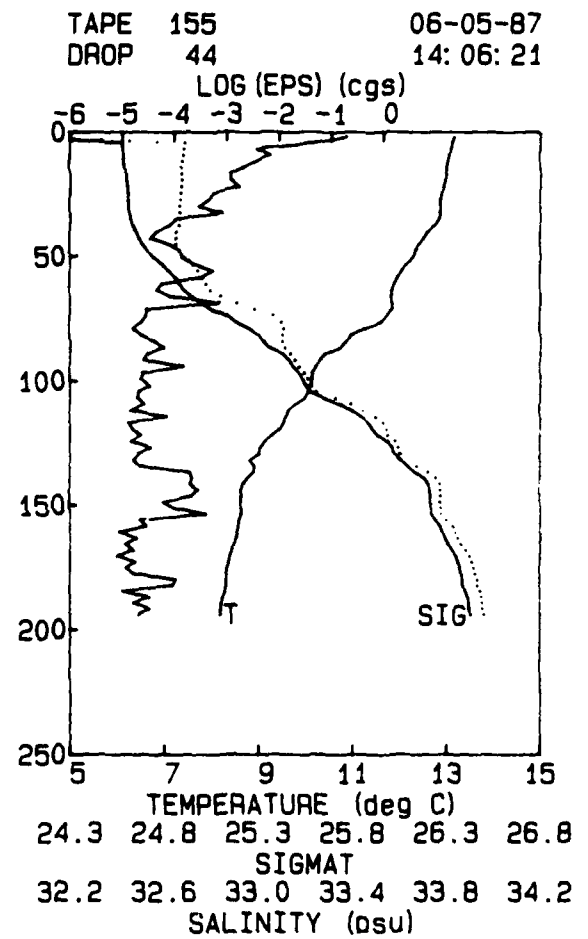


DEPTH (meters)

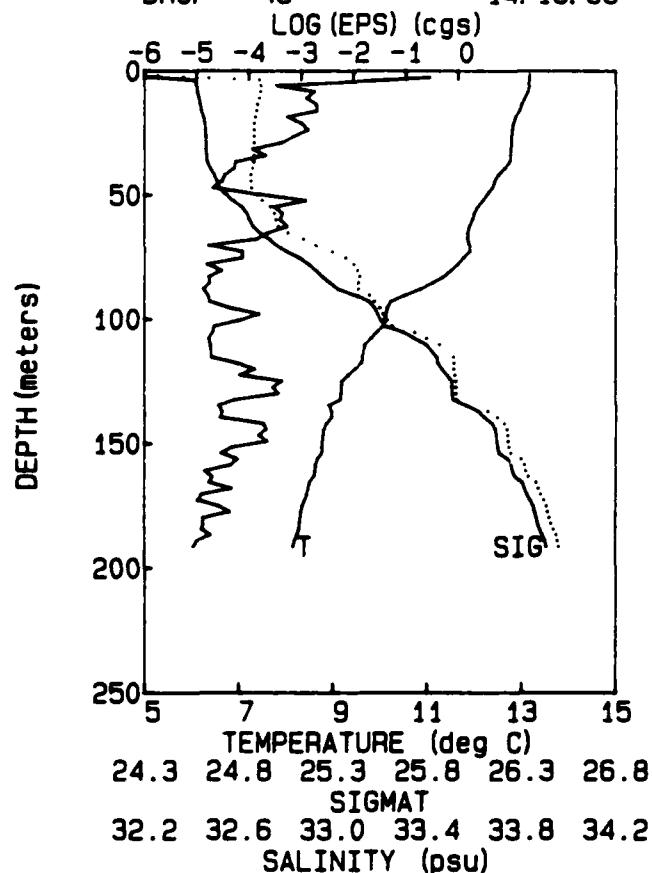
DEPTH (meters)



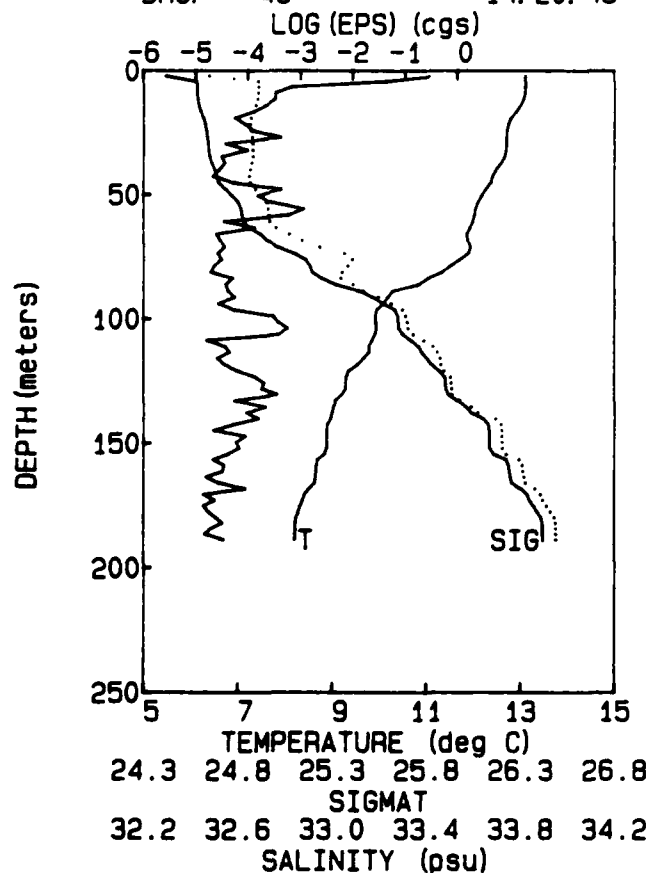
DEPTH (meters)



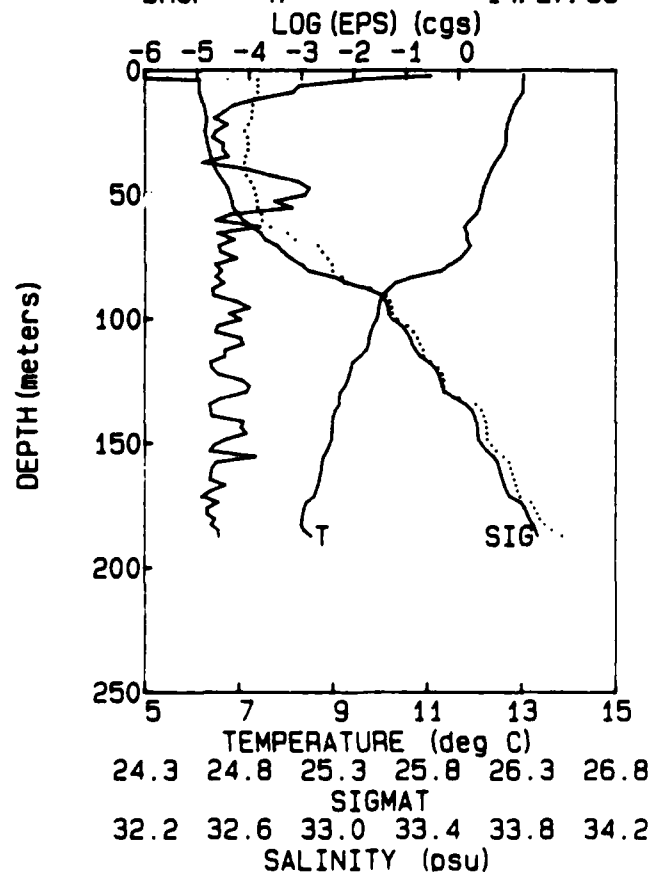
TAPE 155 06-05-87
DROP 45 14:13:33



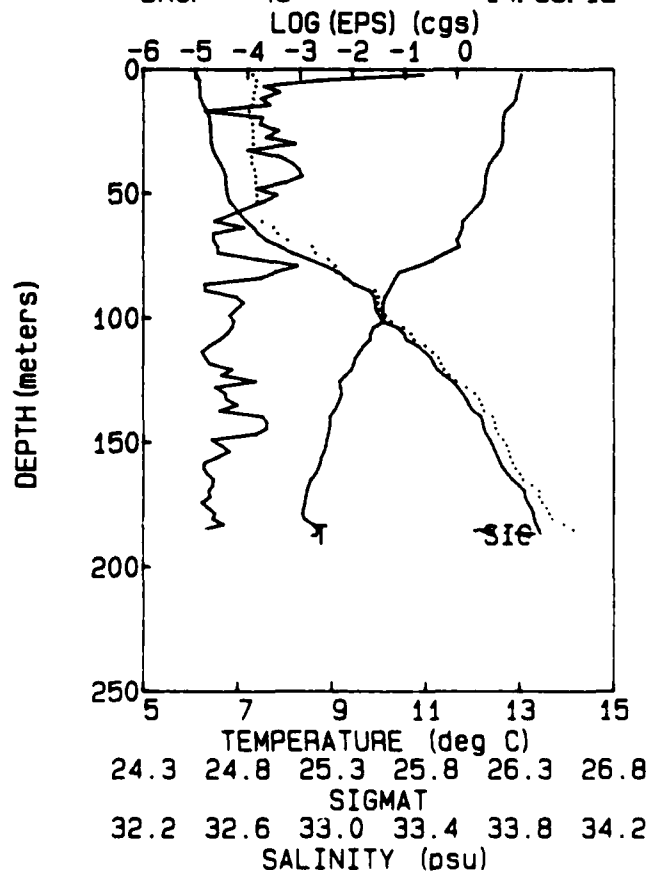
TAPE 155 06-05-87
DROP 46 14:20:45



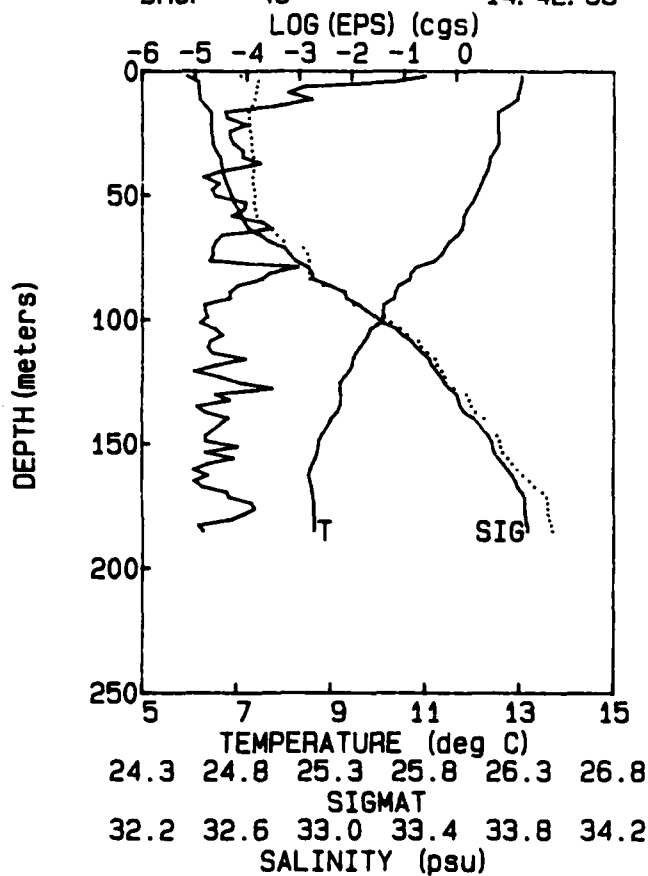
TAPE 155 06-05-87
DROP 47 14:27:56



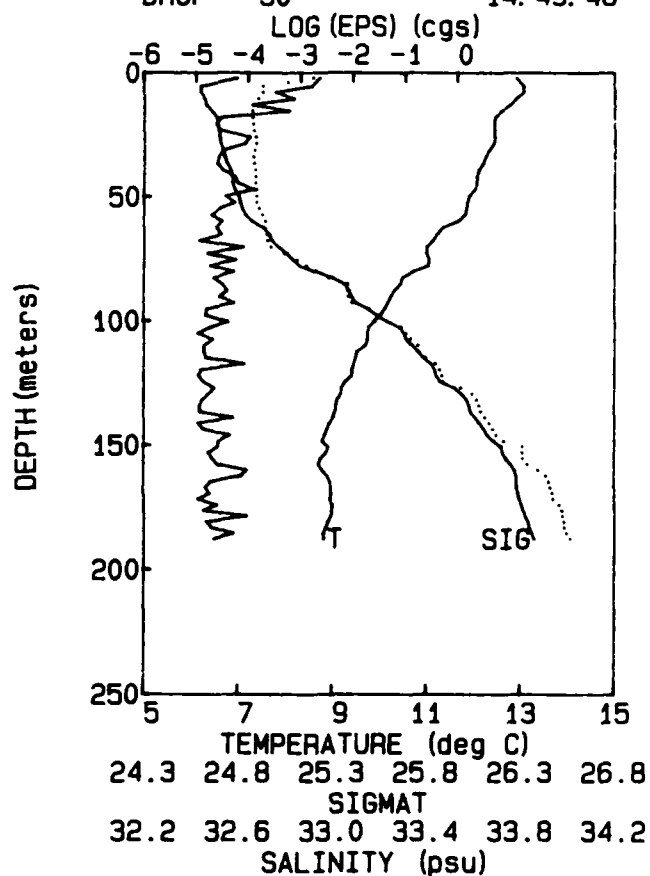
TAPE 155 06-05-87
DROP 48 14:35:12



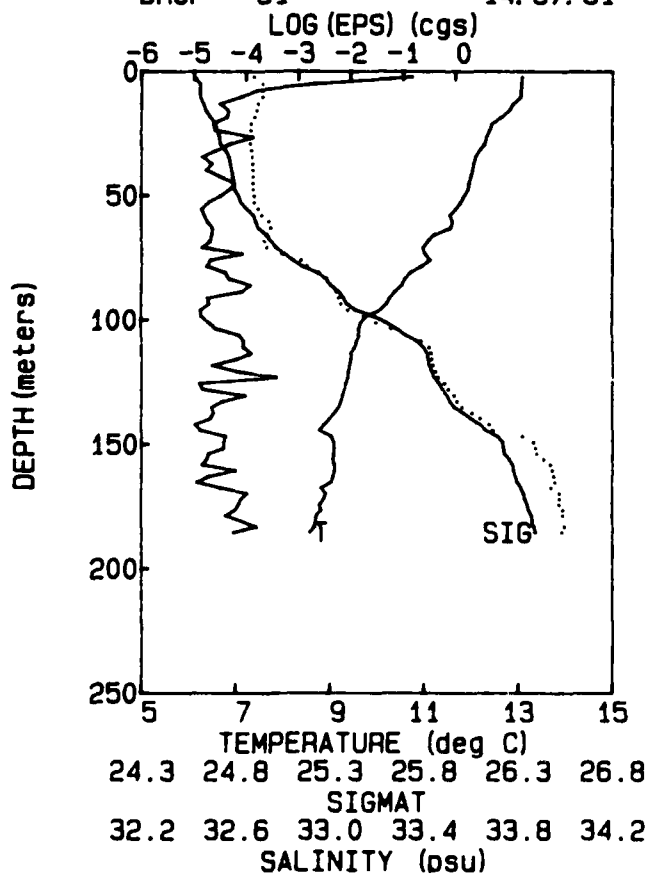
TAPE 155 06-05-87
 DROP 49 14:42:35



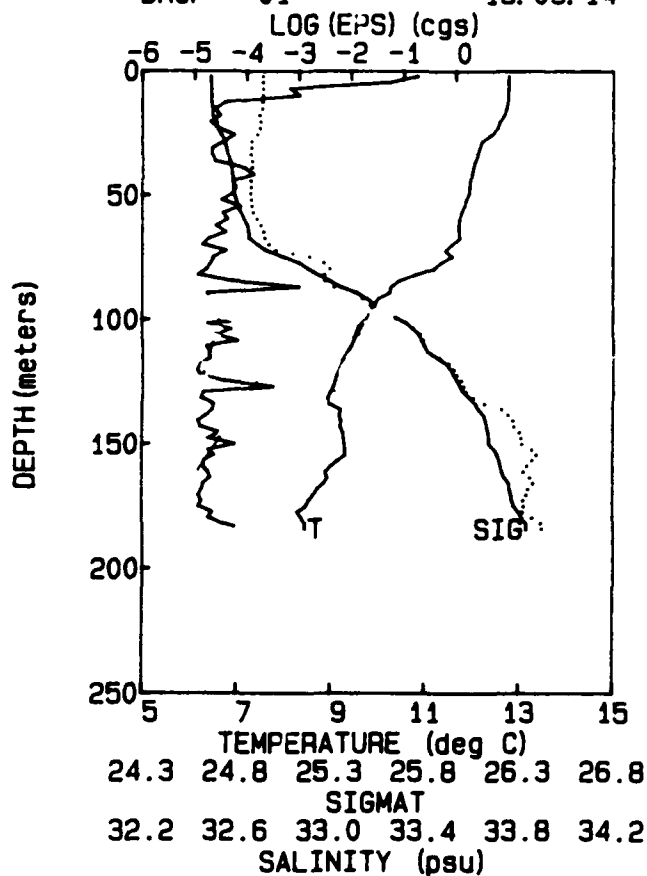
TAPE 155 06-05-87
 DROP 50 14:49:48



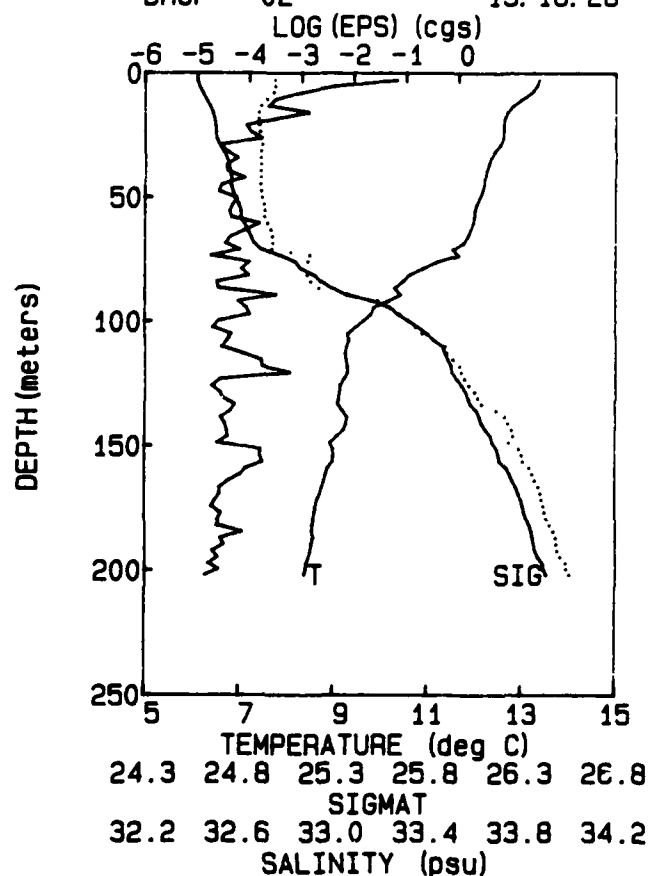
TAPE 155 06-05-87
 DROP 51 14:57:51



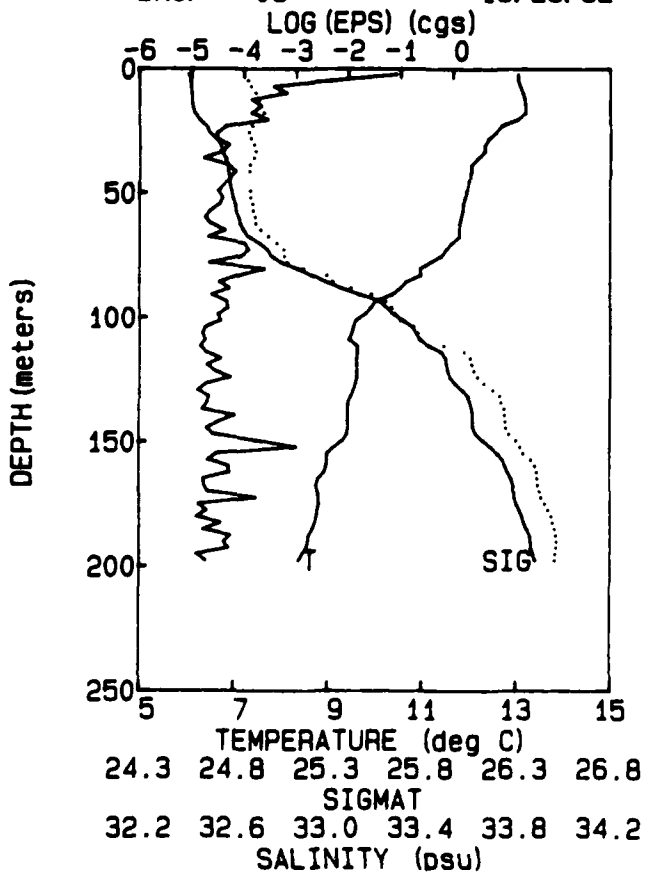
TAPE 156 06-05-87
DROP 01 15: 09: 14



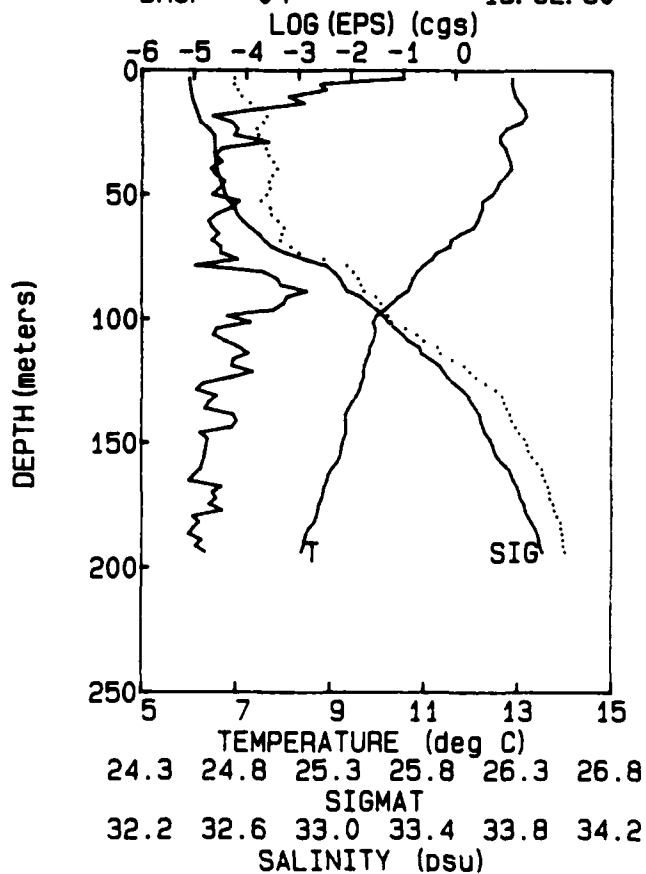
TAPE 156 06-05-87
DROP 02 15: 16: 28



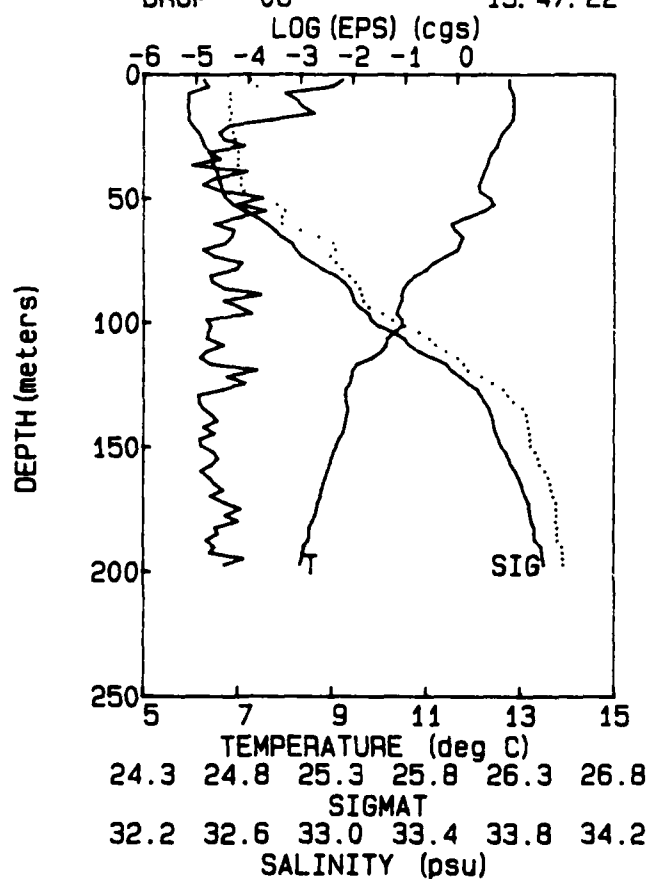
TAPE 156 06-05-87
DROP 03 15: 23: 52



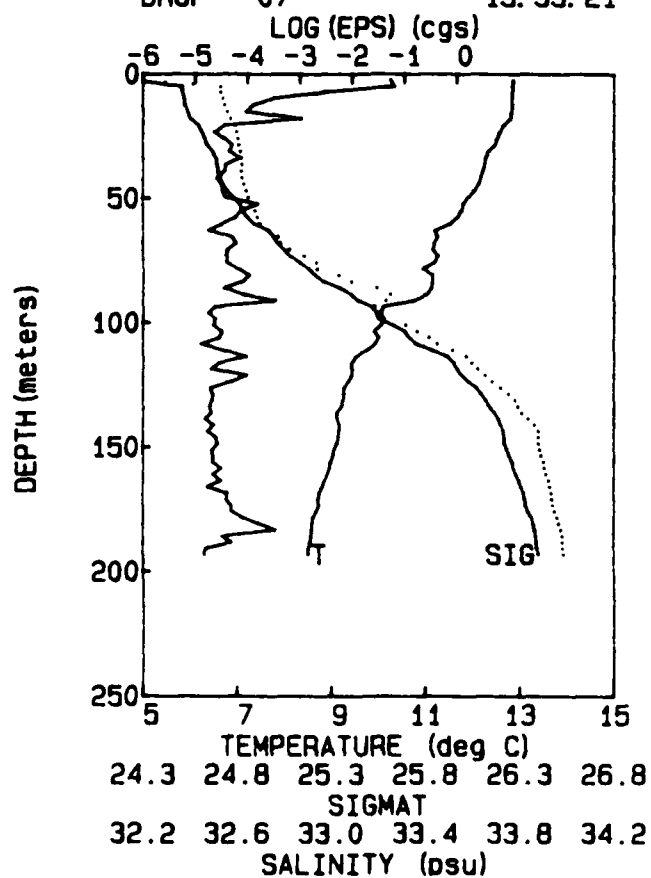
TAPE 156 06-05-87
DROP 04 15: 32: 30



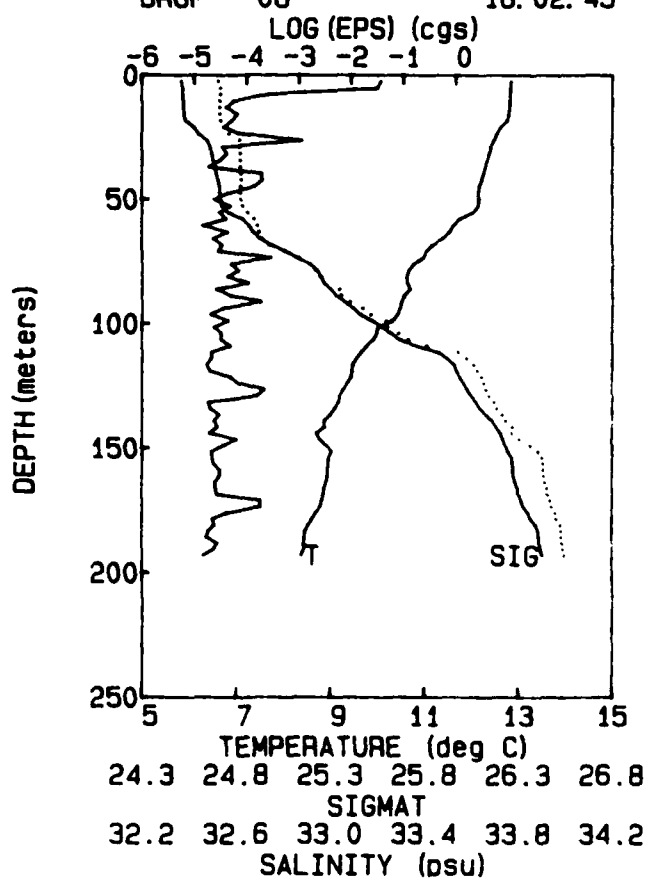
TAPE 156 06-05-87
 DROP 06 15: 47: 22

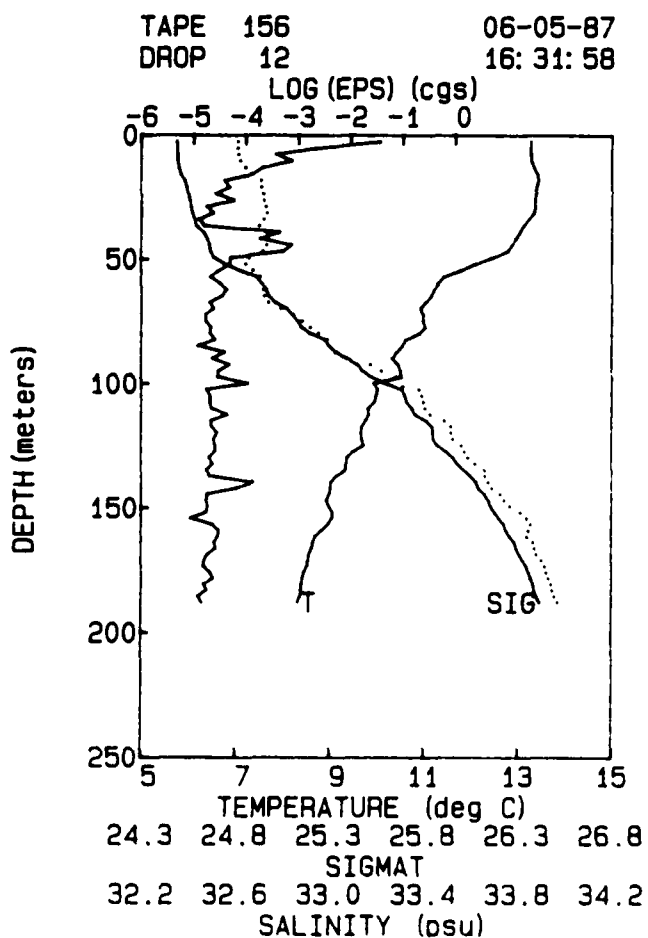
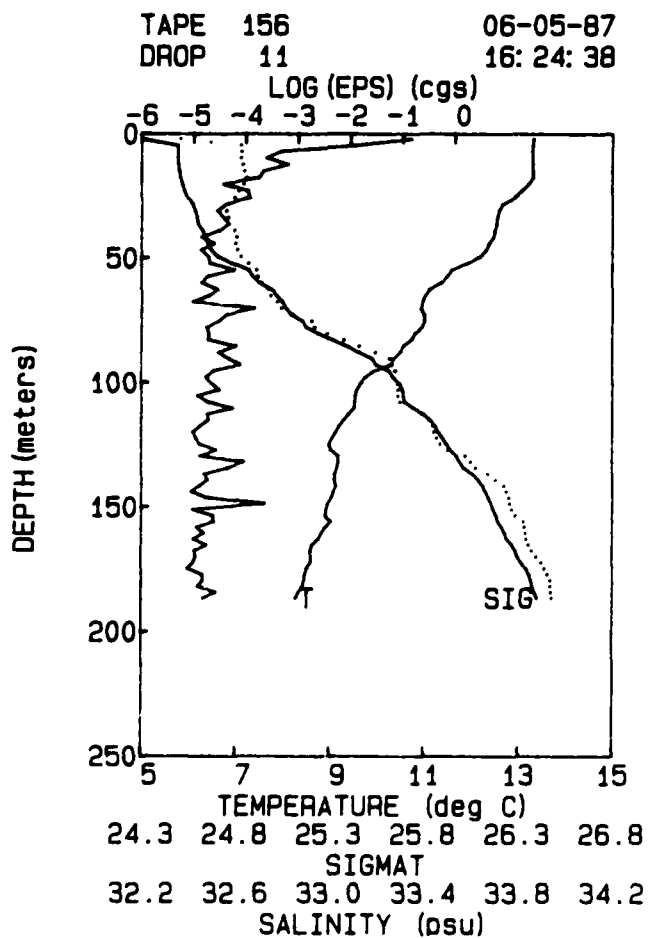
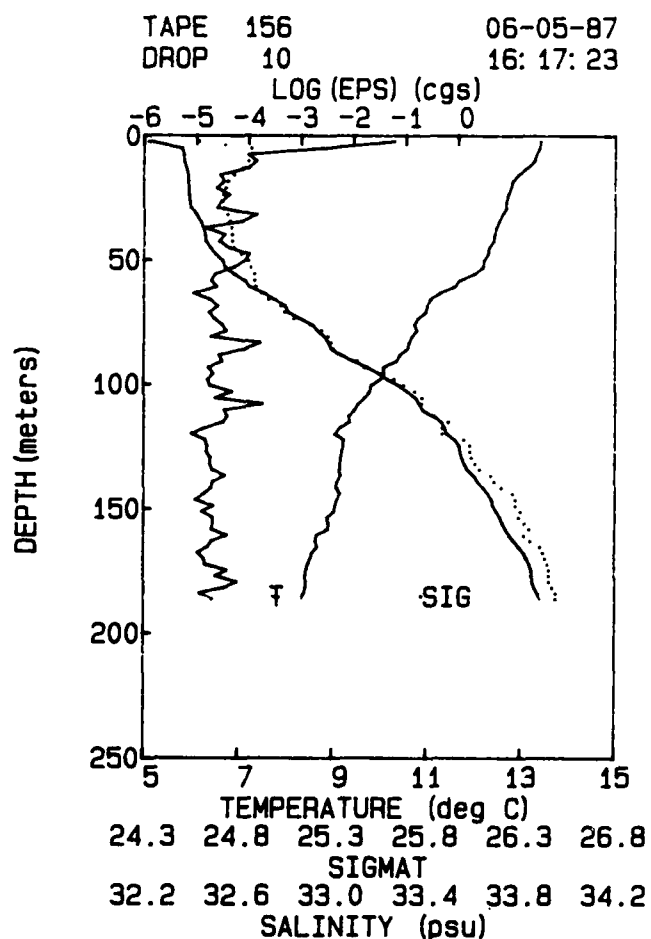
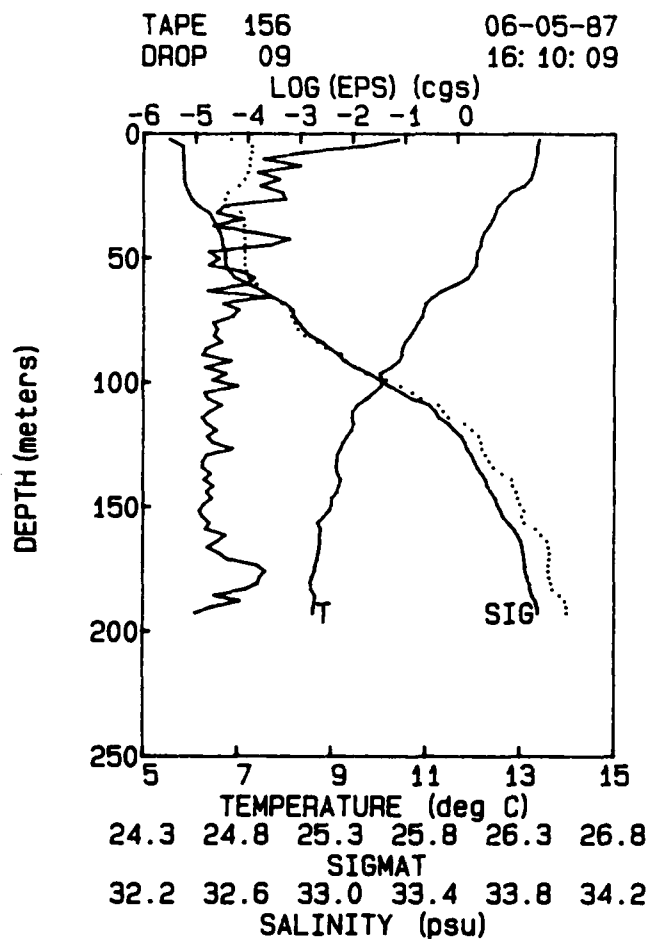


TAPE 156 06-05-87
 DROP 07 15: 55: 21

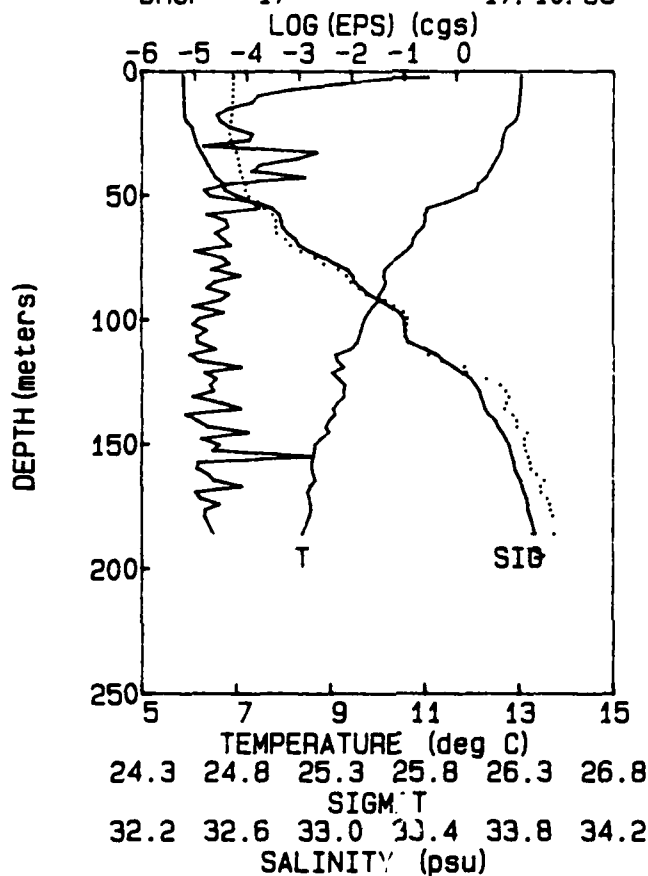


TAPE 156 06-05-87
 DROP 08 16: 02: 45

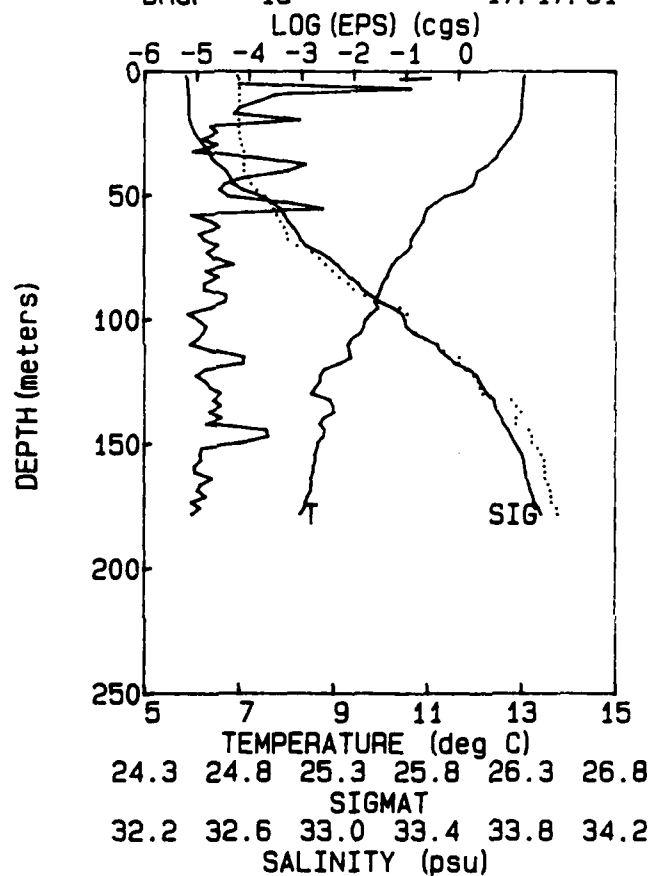




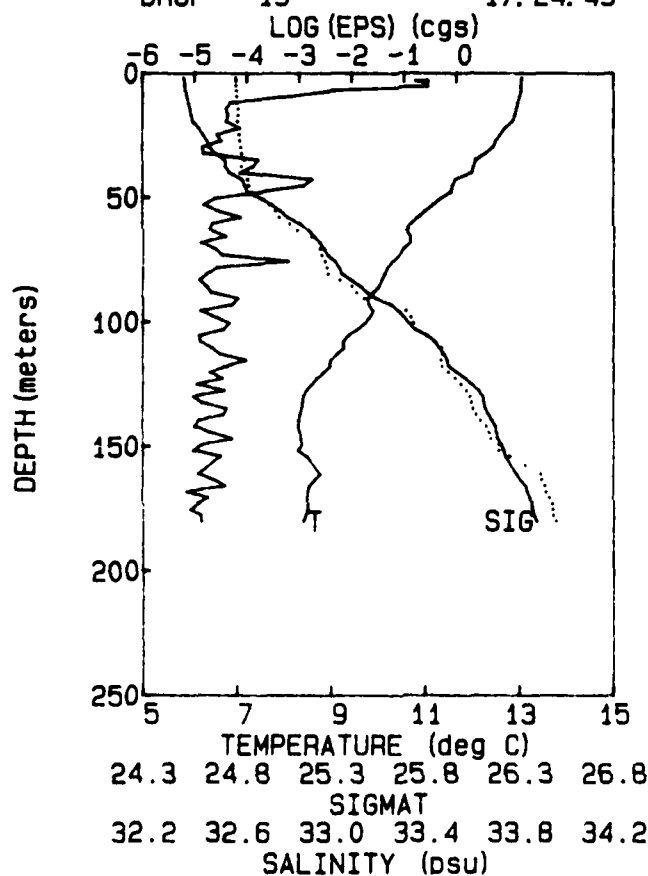
TAPE 156 06-05-87
DROP 17 17: 10: 33



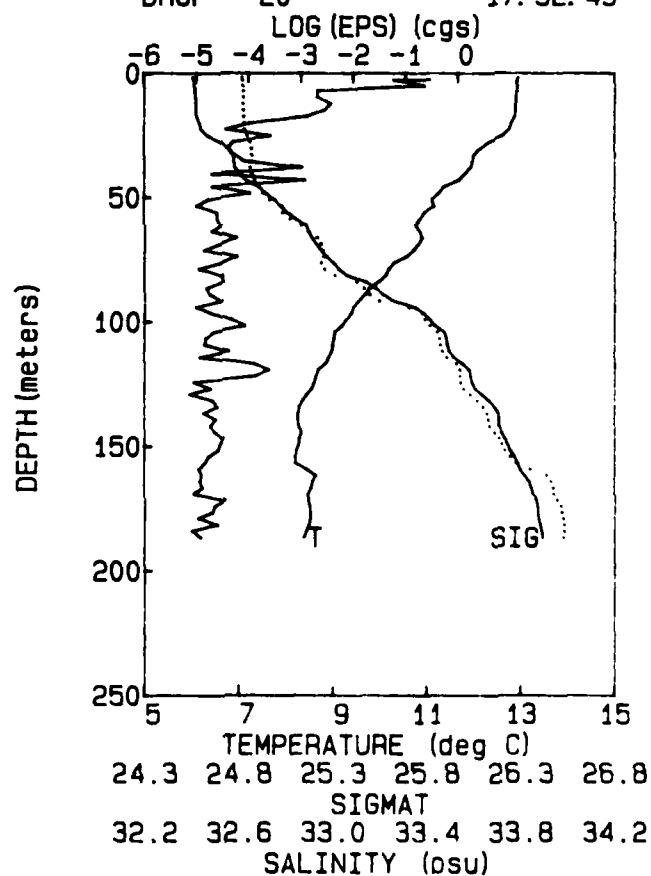
TAPE 156 06-05-87
DROP 18 17: 17: 31

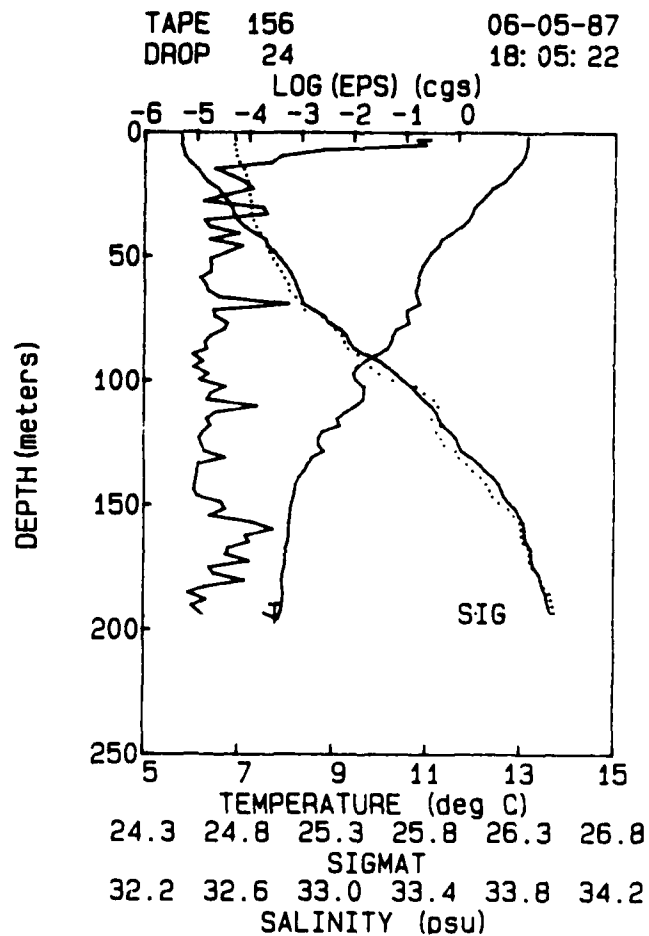
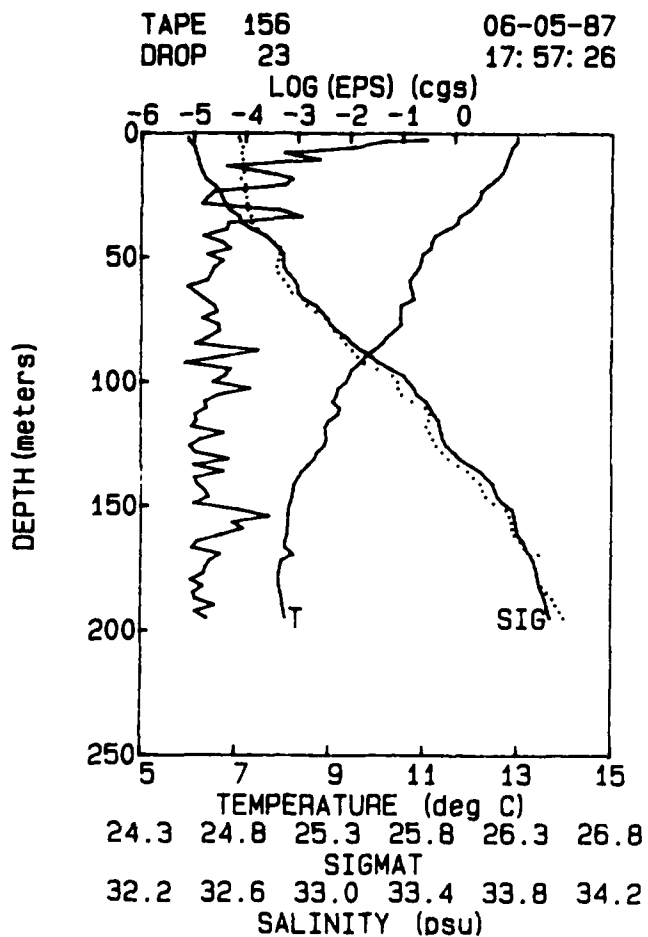
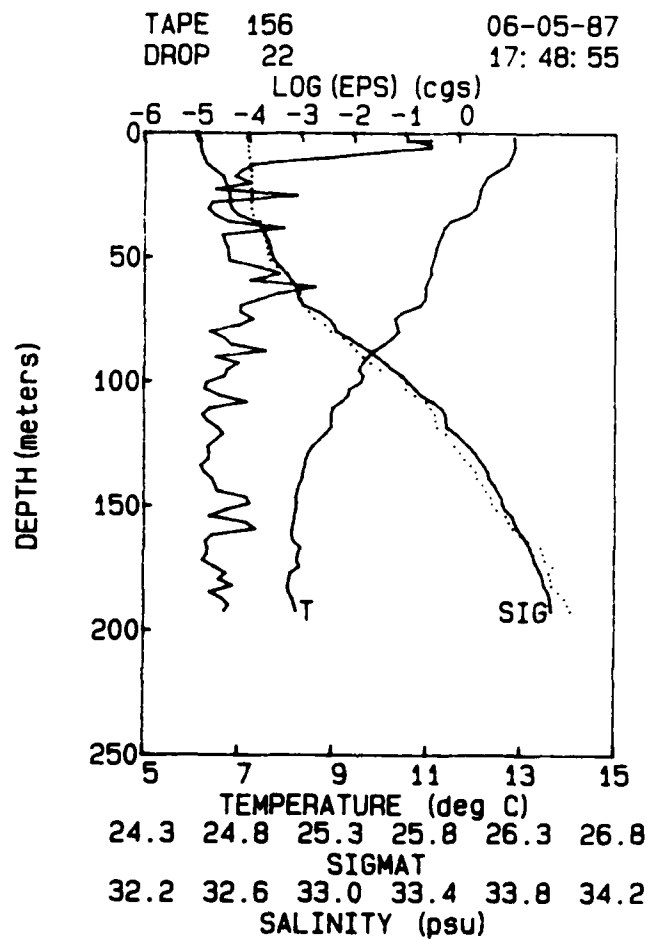
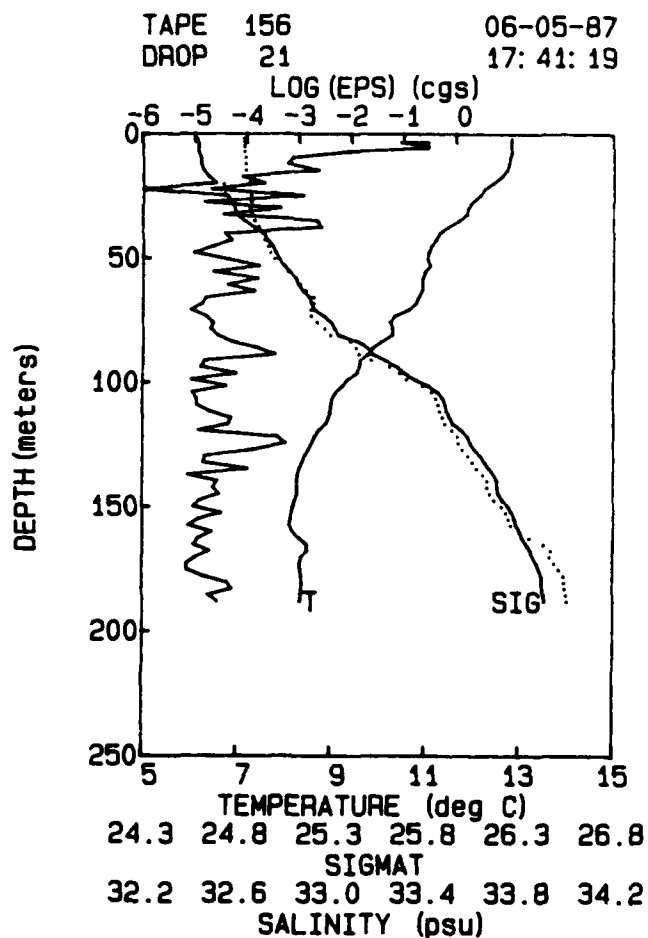


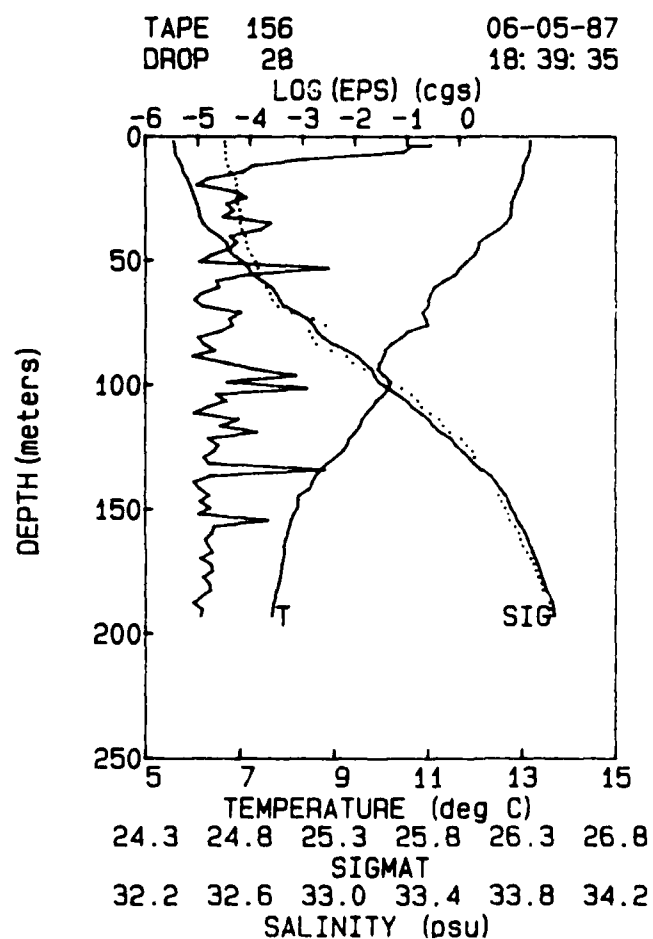
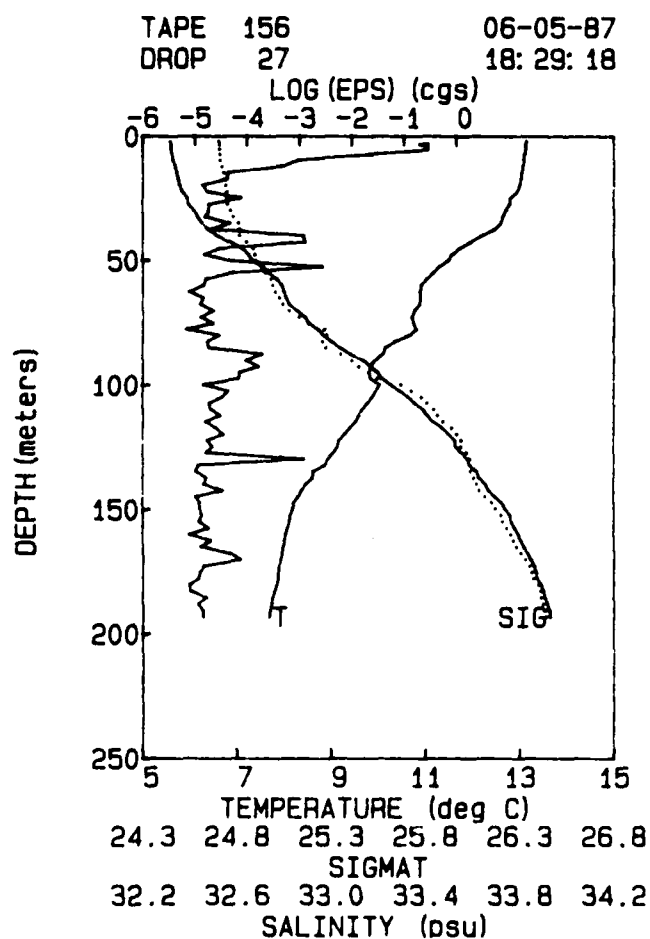
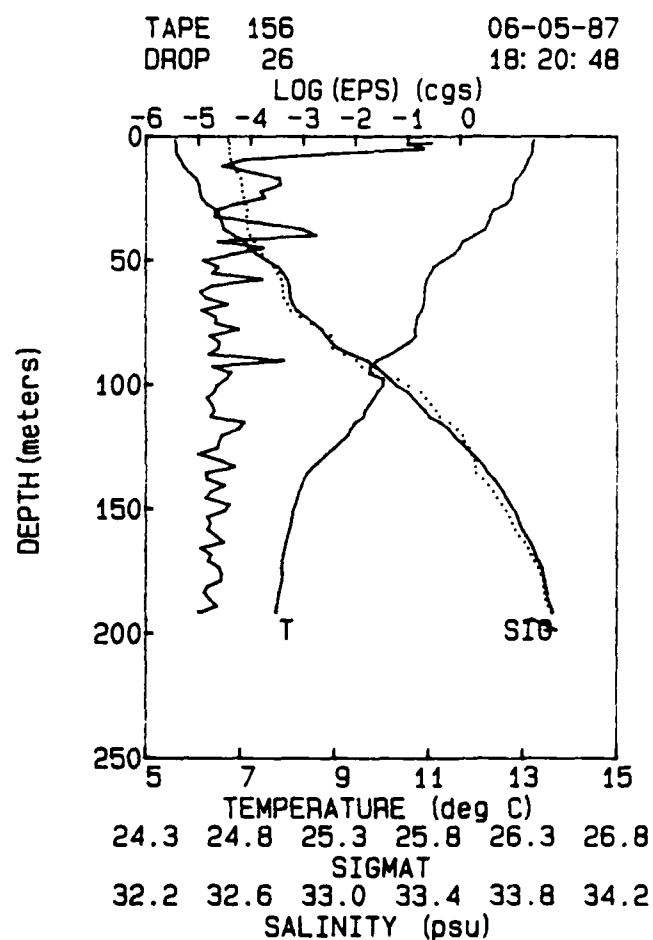
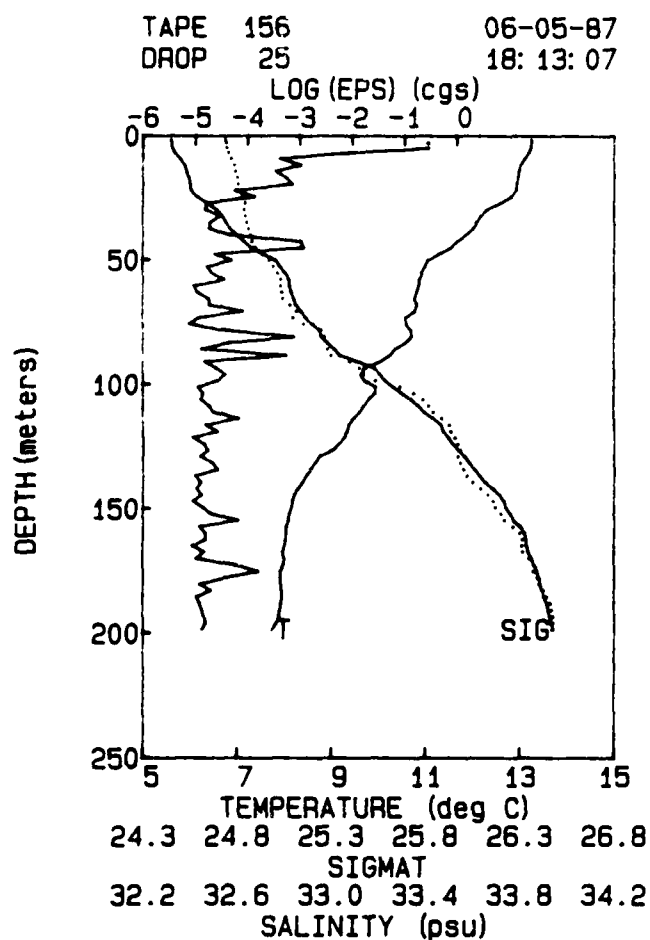
TAPE 156 06-05-87
DROP 19 17: 24: 49



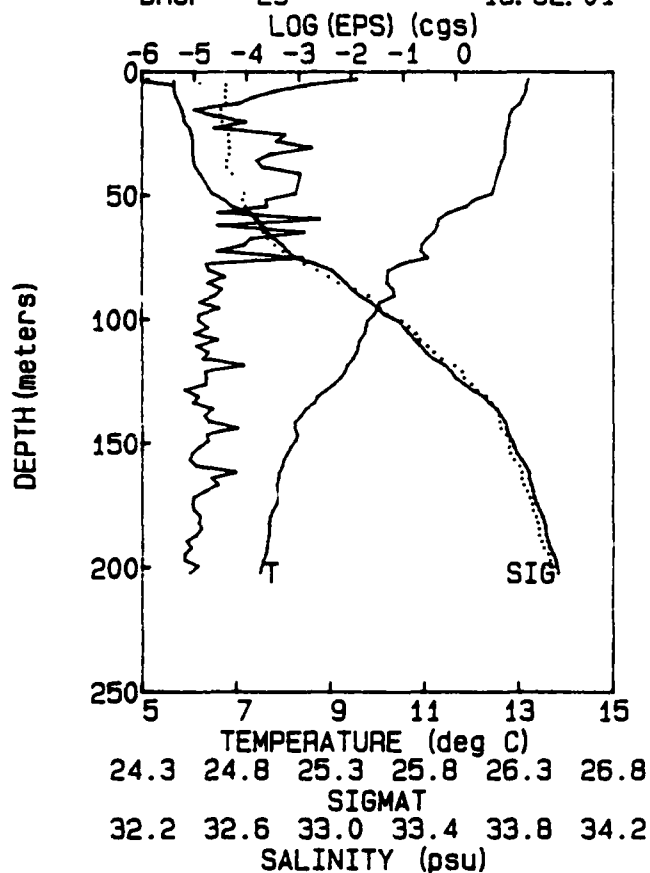
TAPE 156 06-05-87
DROP 20 17: 32: 49



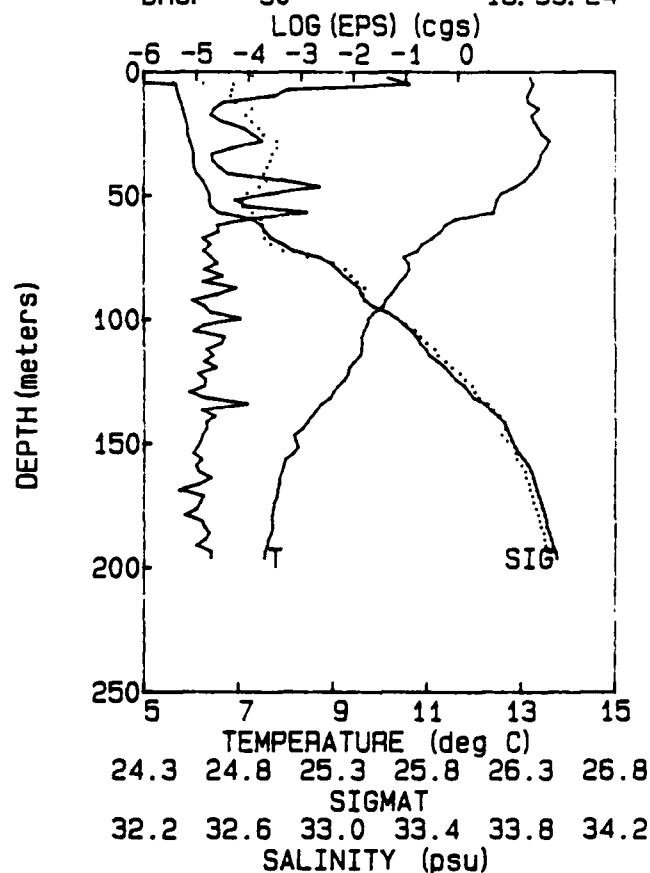




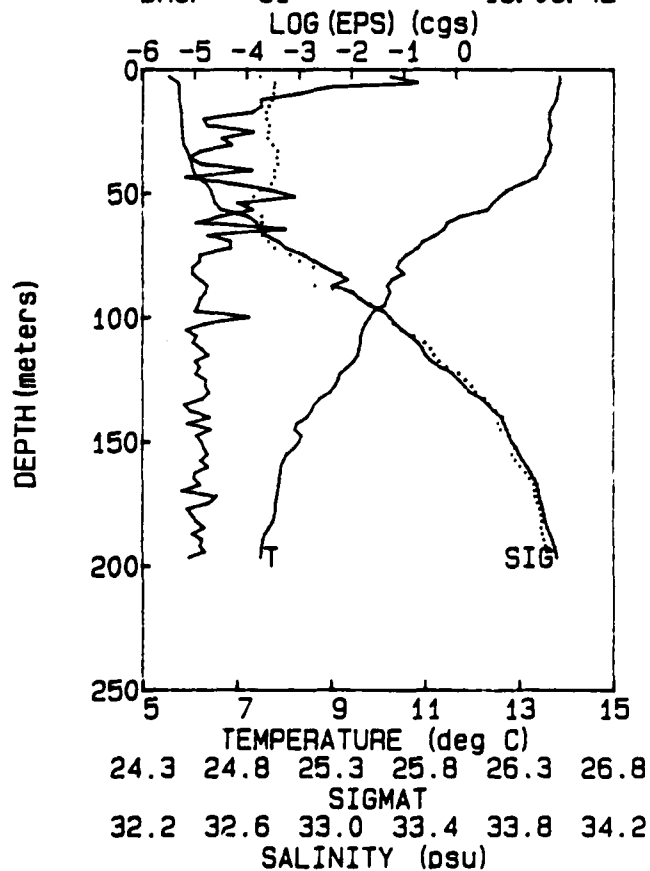
TAPE 156 06-05-87
DROP 29 18:52:01



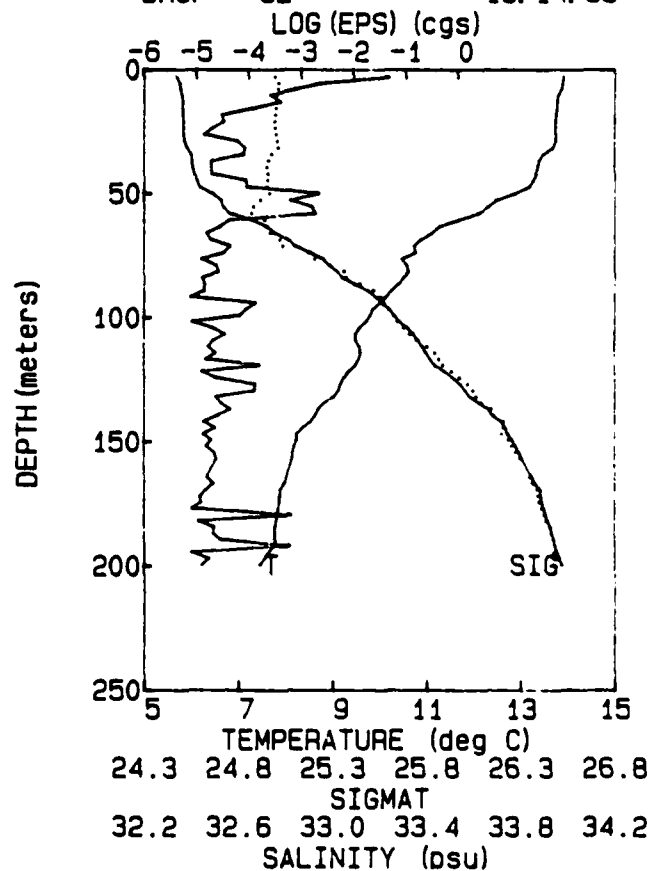
TAPE 156 06-05-87
DROP 30 18:59:24



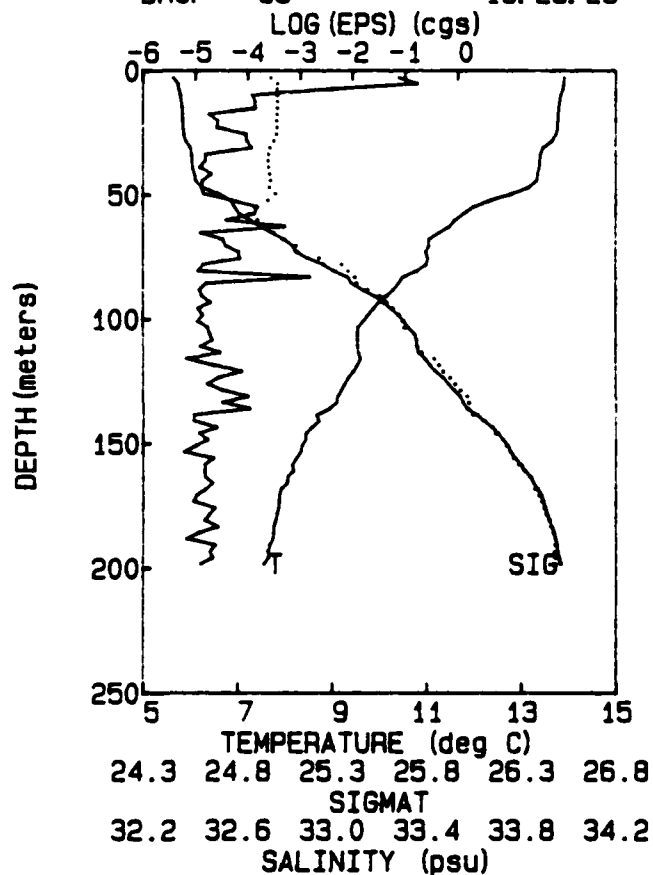
TAPE 156 06-05-87
DROP 31 19:06:42



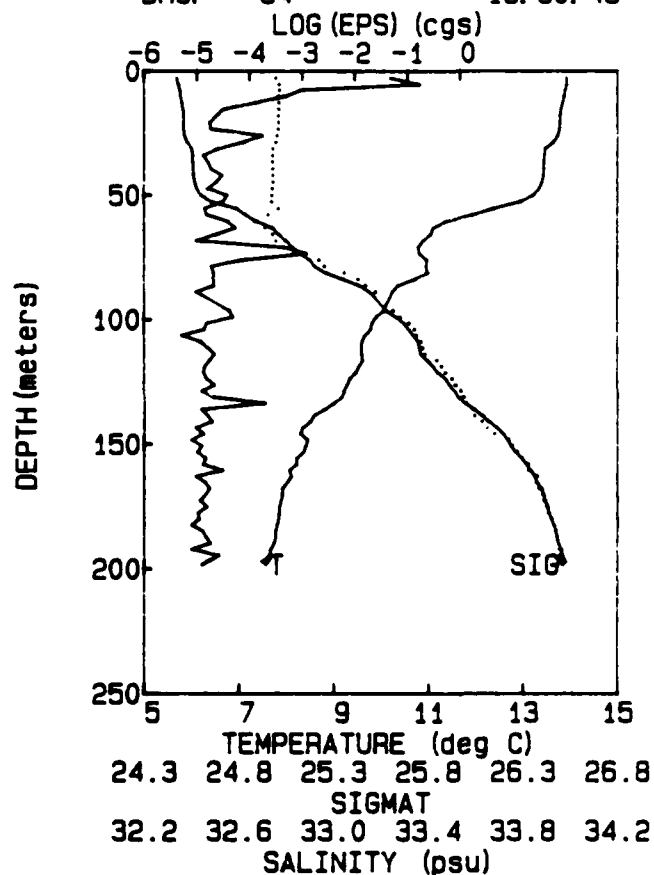
TAPE 156 06-05-87
DROP 32 19:14:53



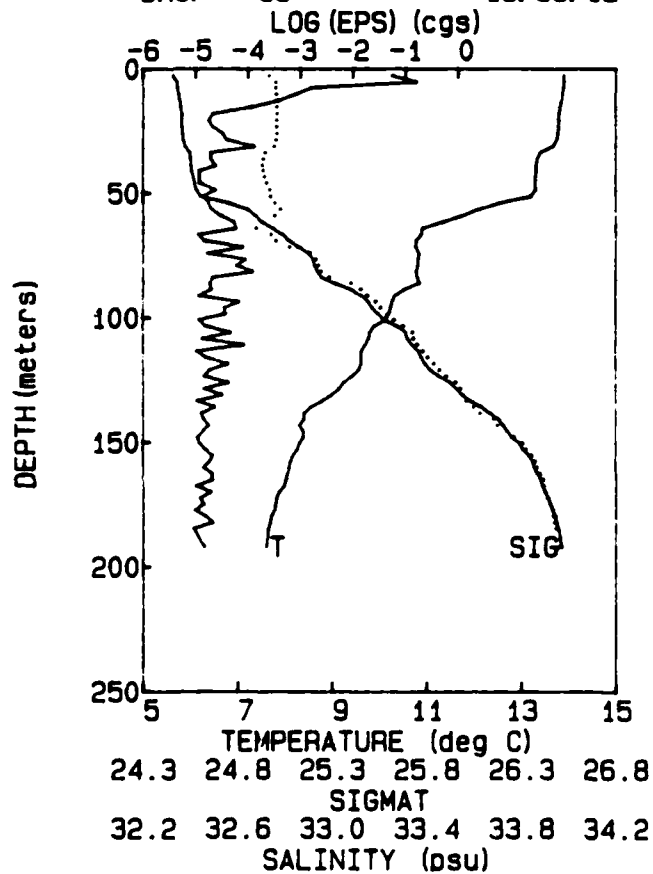
TAPE 156 06-05-87
DROP 33 19: 23: 25



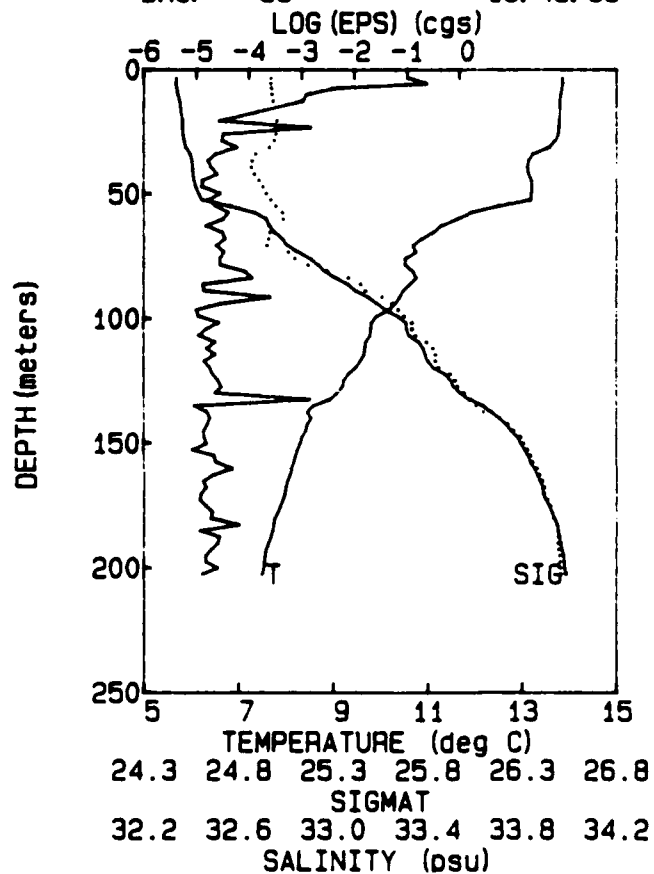
TAPE 156 06-05-87
DROP 34 19: 30: 45



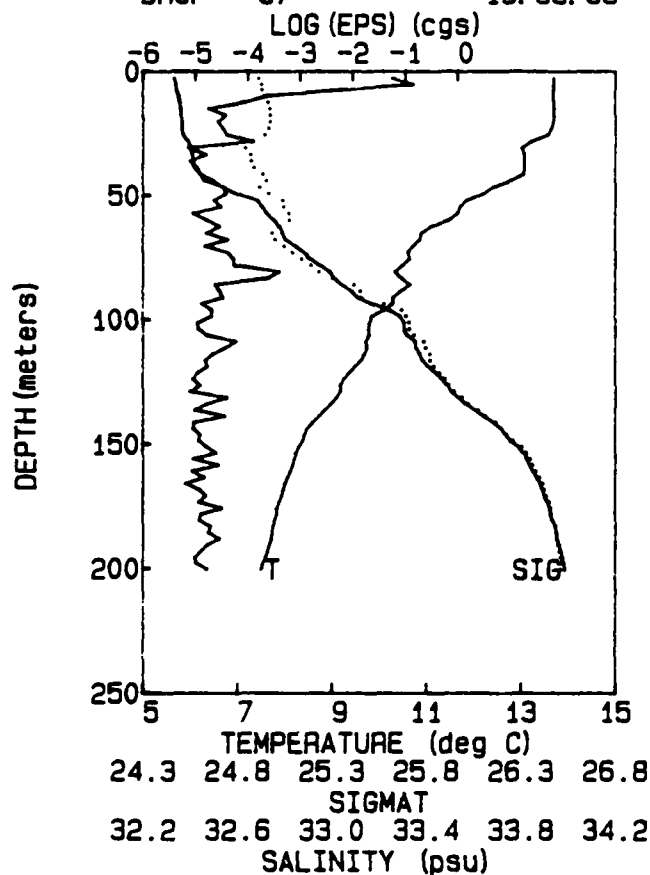
TAPE 156 06-05-87
DROP 35 19: 38: 12



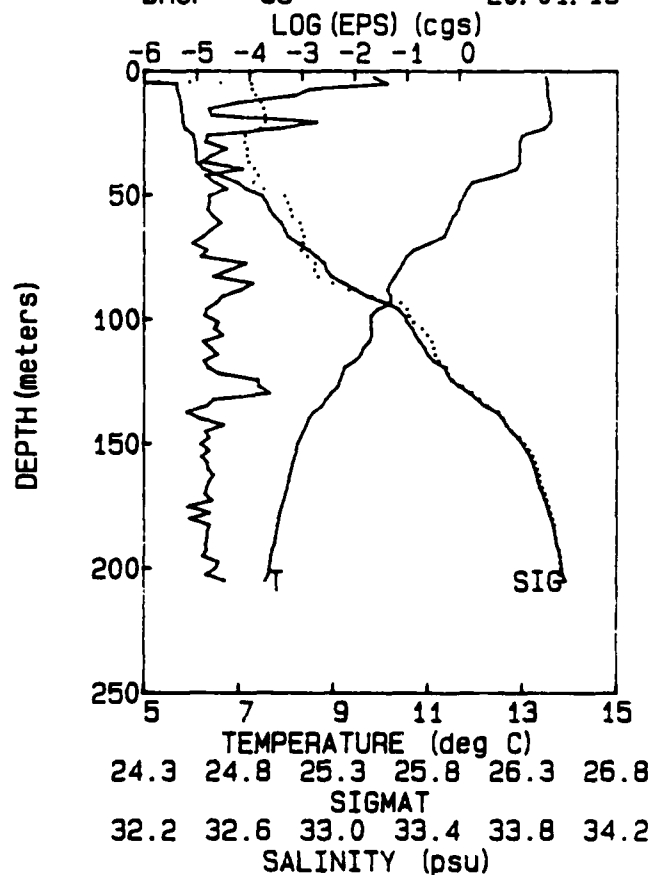
TAPE 156 06-05-87
DROP 36 19: 45: 56



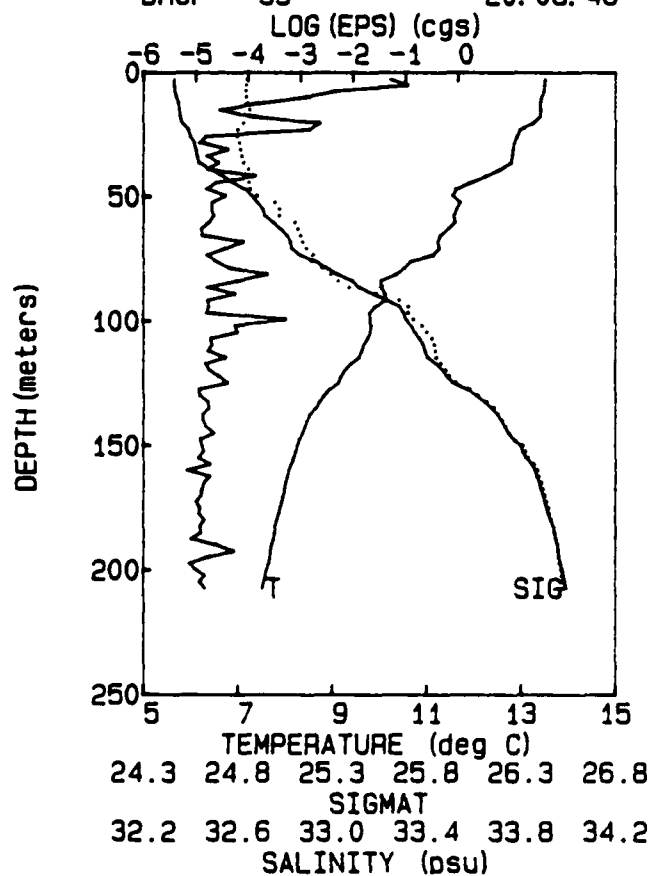
TAPE 156 06-05-87
 DROP 37 19: 53: 55



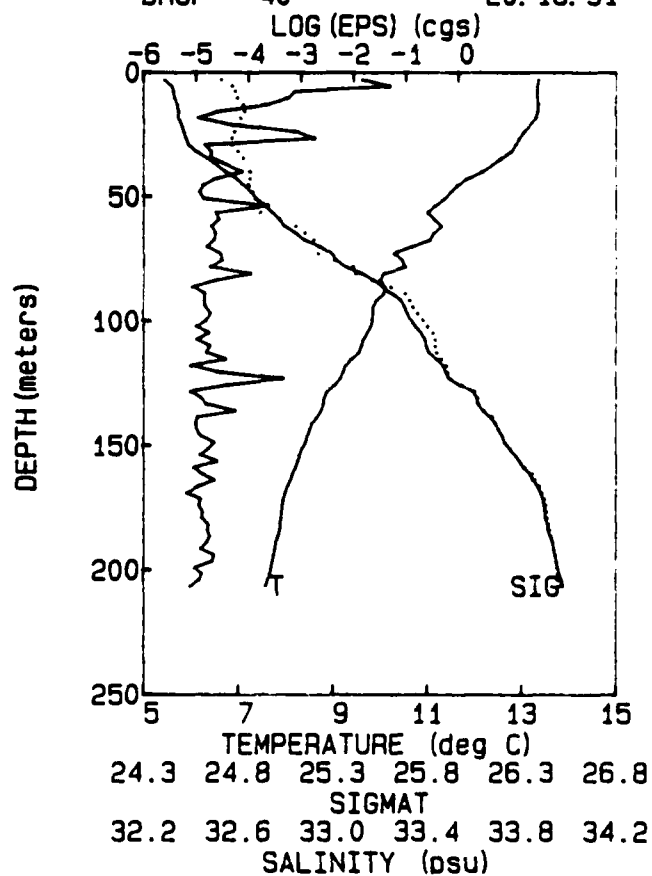
TAPE 156 06-05-87
 DROP 38 20: 01: 19



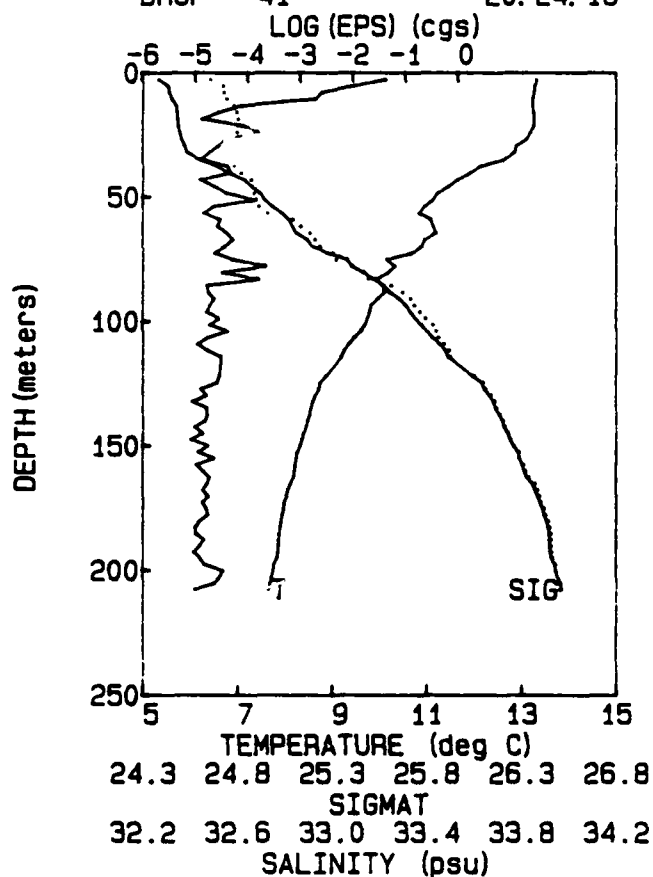
TAPE 156 06-05-87
 DROP 39 20: 08: 46



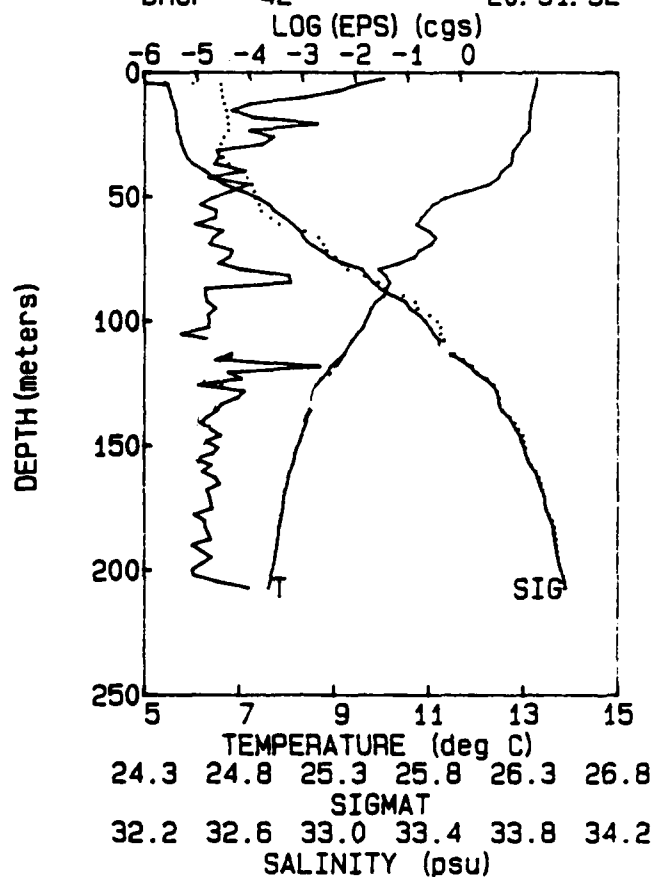
TAPE 156 06-05-87
 DROP 40 20: 16: 31



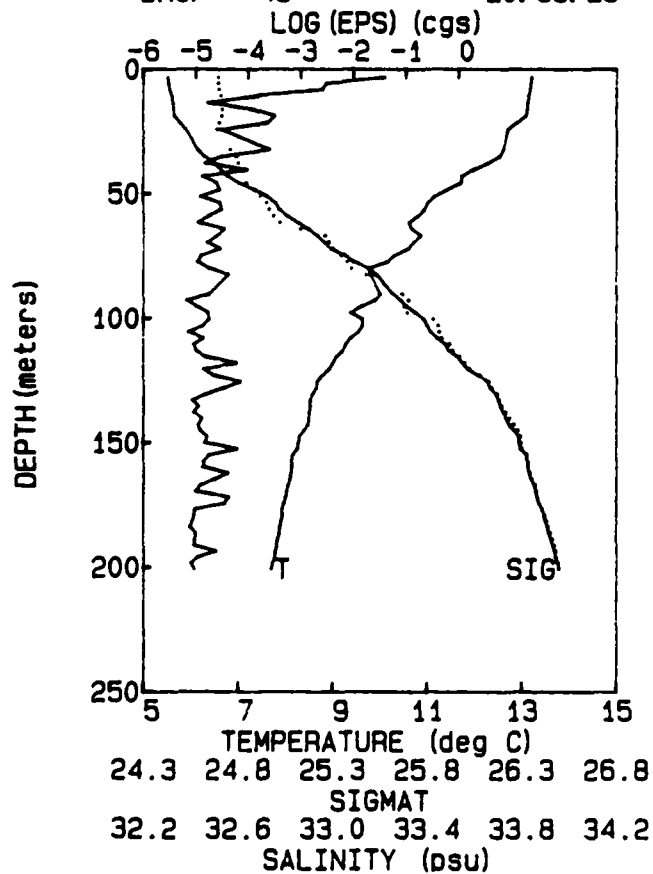
TAPE 156 06-05-87
DROP 41 20: 24: 16



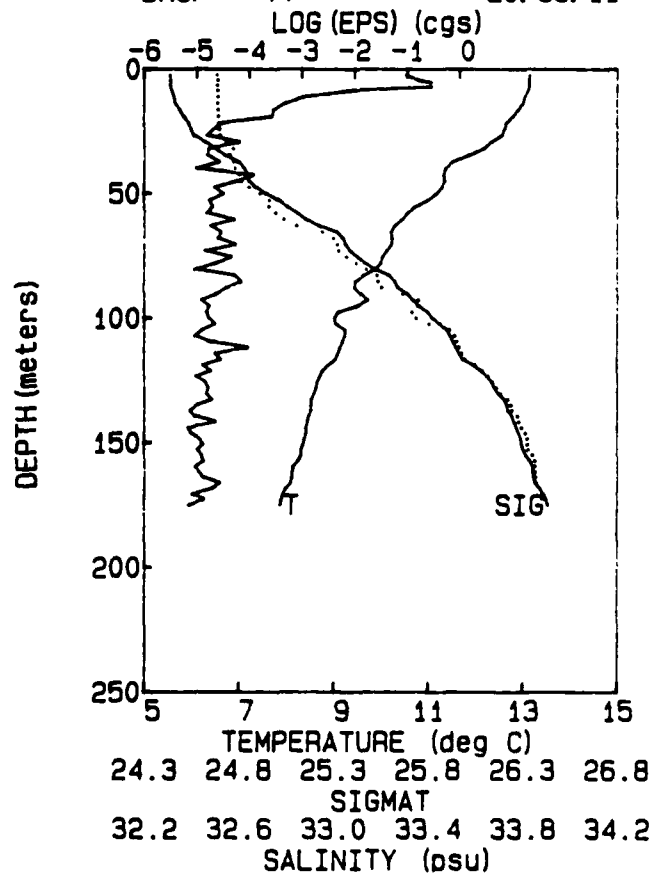
TAPE 156 06-05-87
DROP 42 20: 31: 52



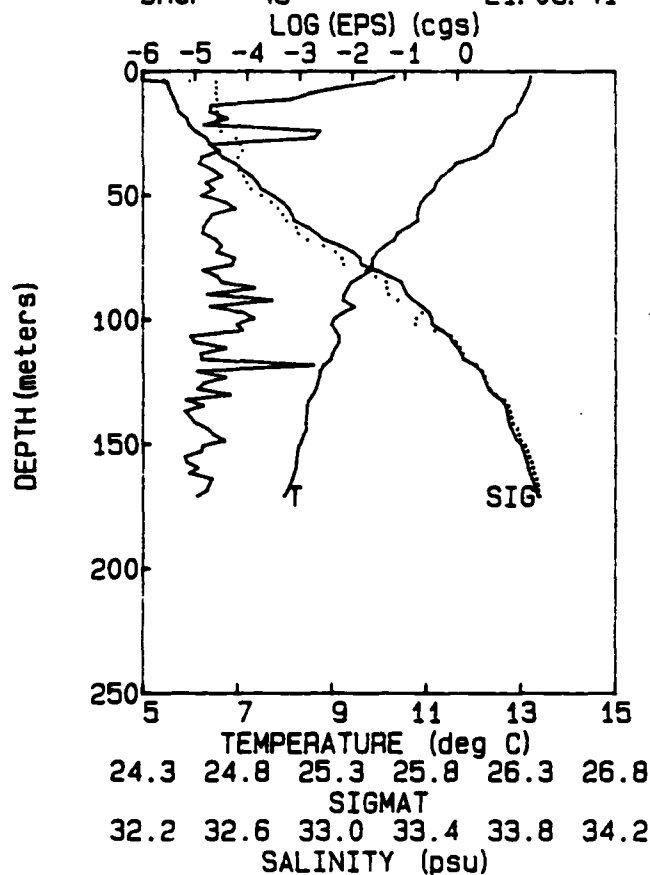
TAPE 156 06-05-87
DROP 43 20: 39: 29



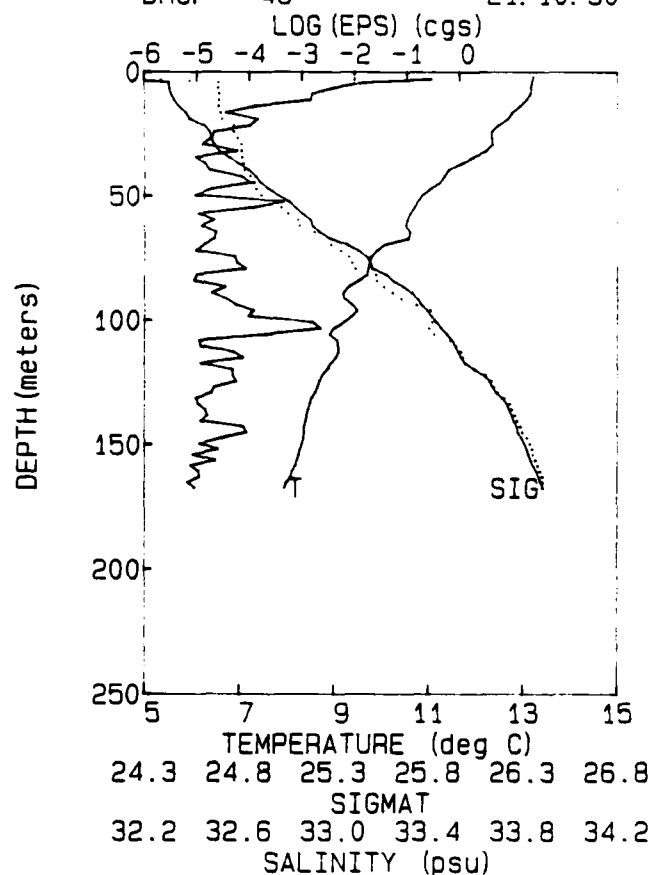
TAPE 156 06-05-87
DROP 44 20: 56: 11



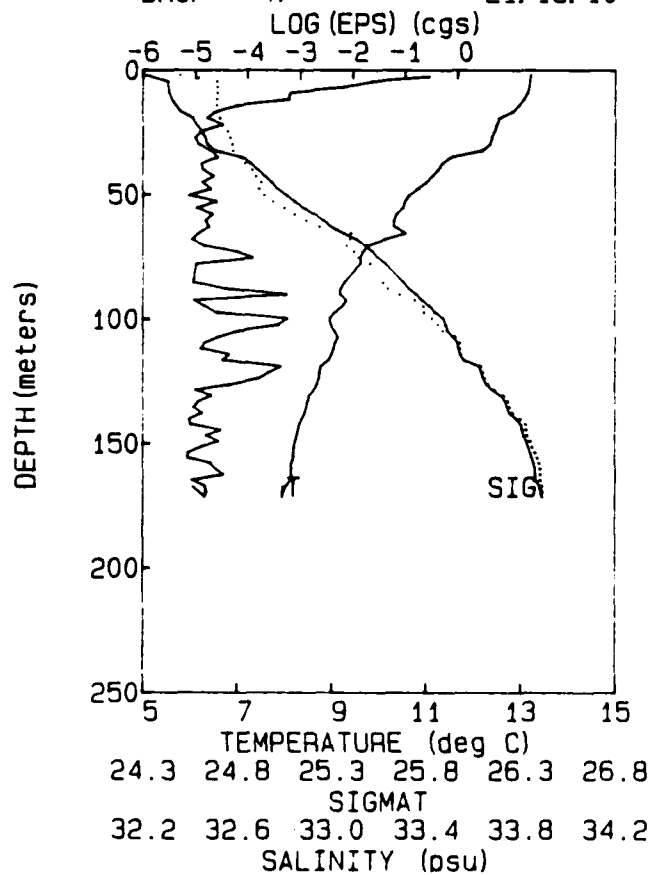
TAPE 156 06-05-87
DROP 45 21: 03: 41



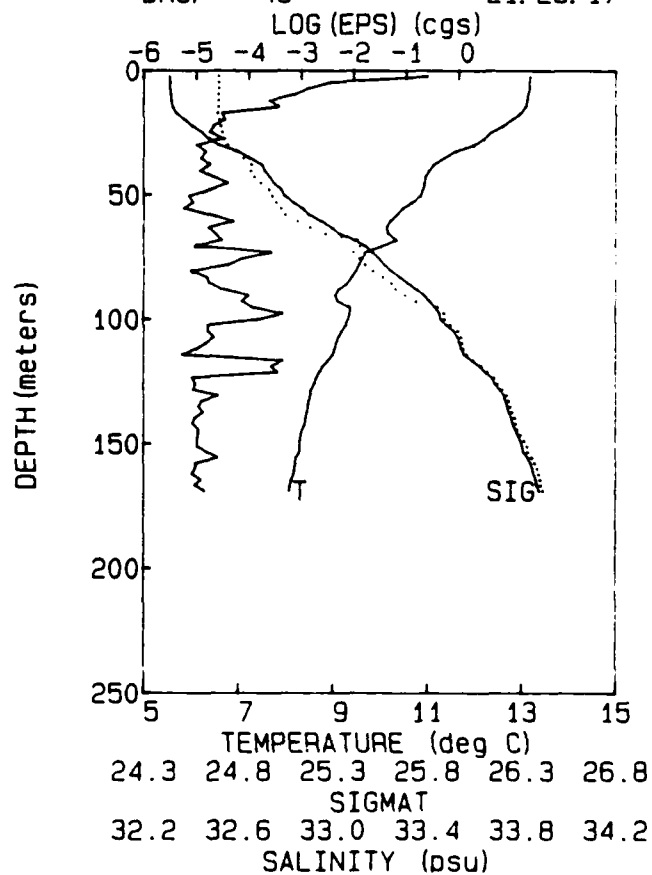
TAPE 156 06-05-87
DROP 46 21: 10: 50



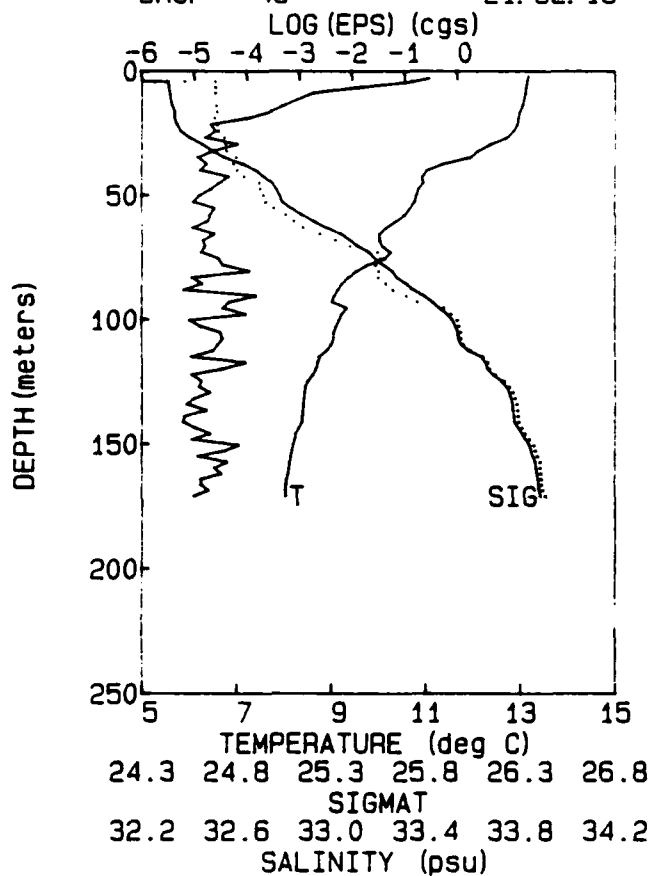
TAPE 156 06-05-87
DROP 47 21: 18: 10



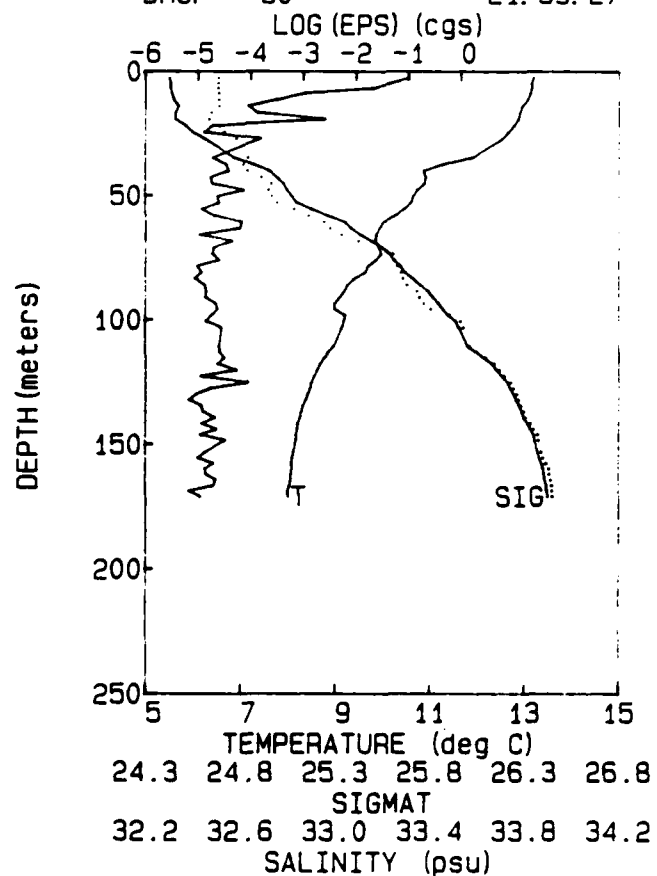
TAPE 156 06-05-87
DROP 48 21: 25: 17



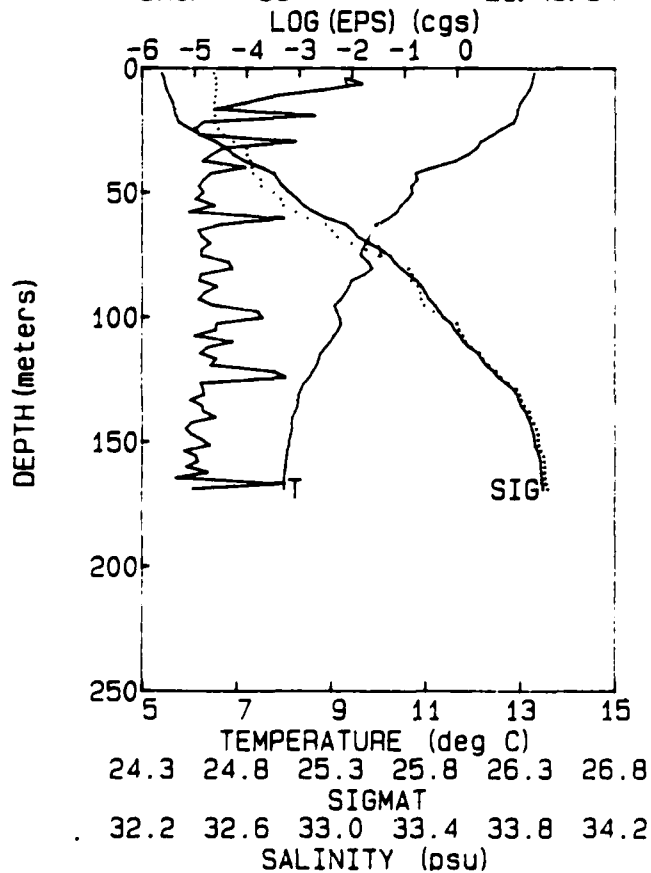
TAPE 156 06-05-87
DROP 49 21: 32: 18



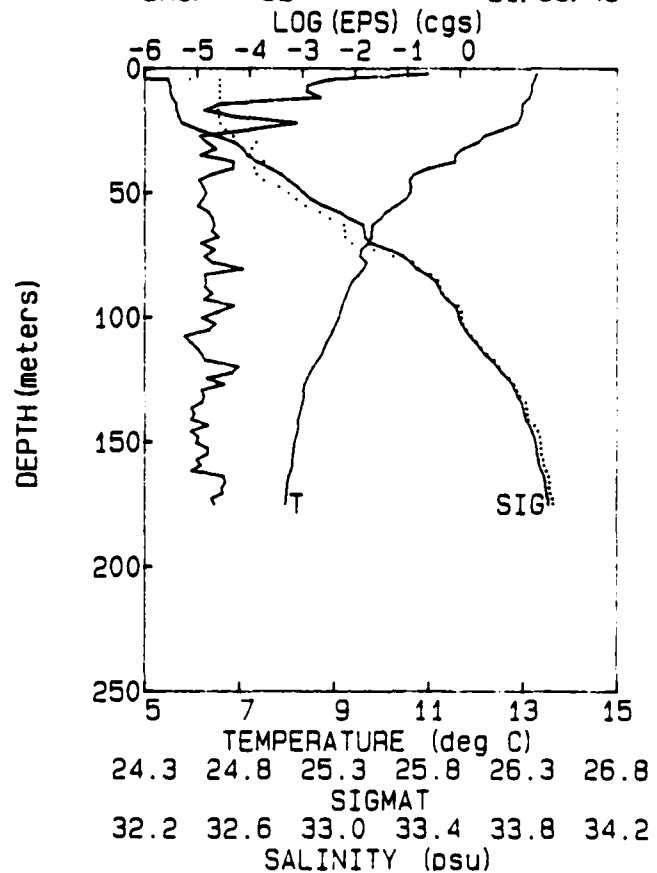
TAPE 156 06-05-87
DROP 50 21: 39: 27



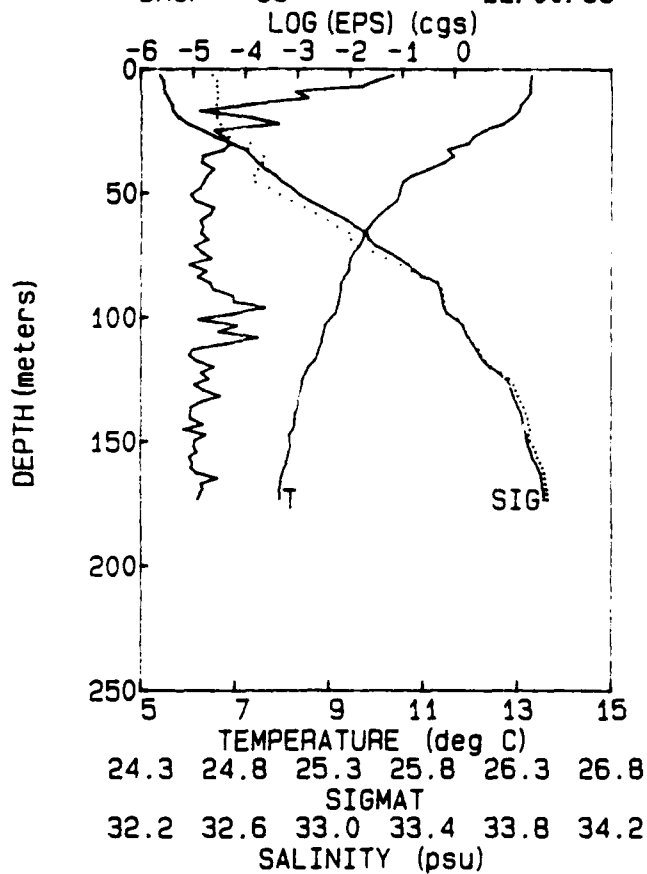
TAPE 156 06-05-87
DROP 51 21: 46: 34



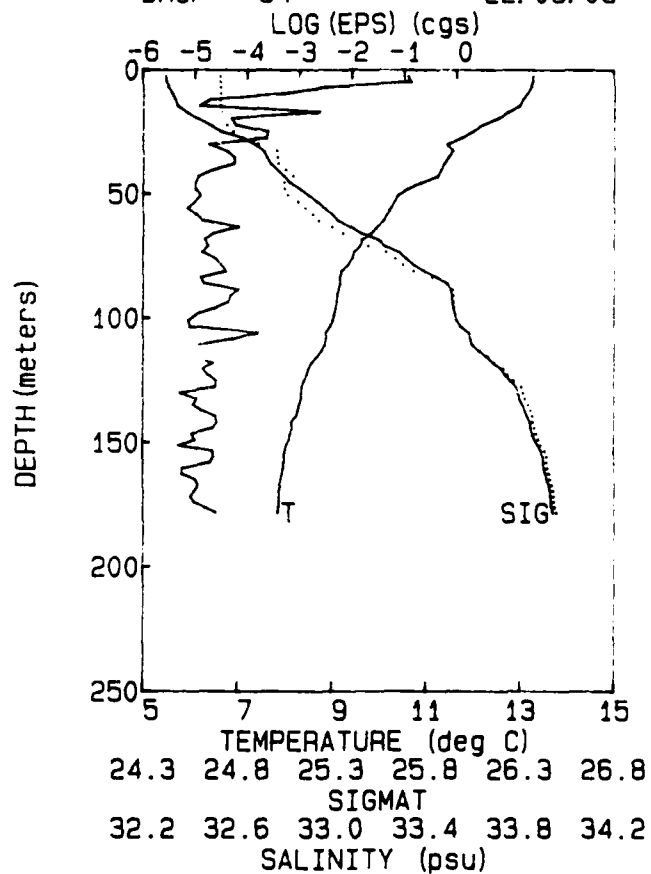
TAPE 156 06-05-87
DROP 52 21: 53: 49



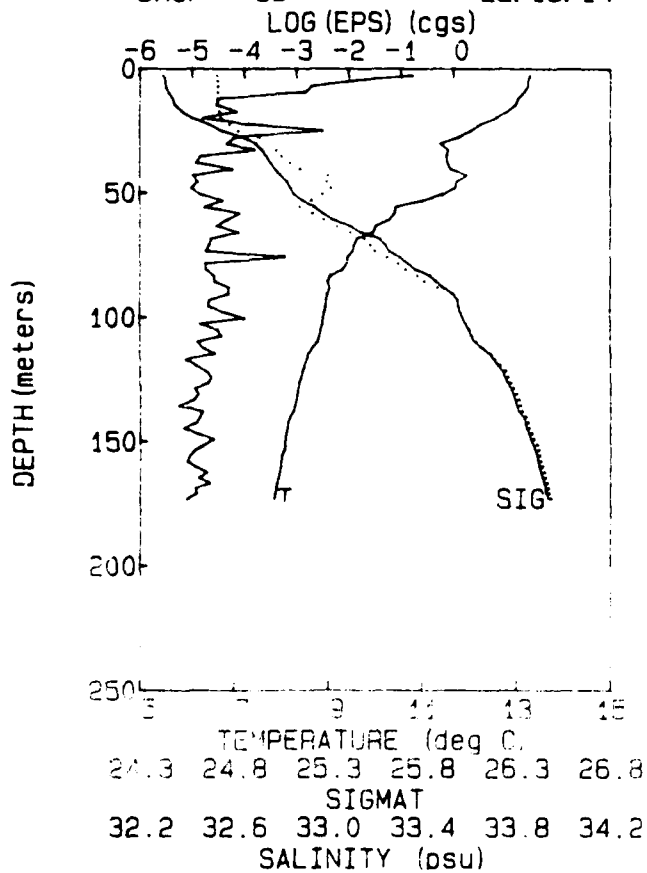
TAPE 156 06-05-87
DROP 53 22: 00: 58



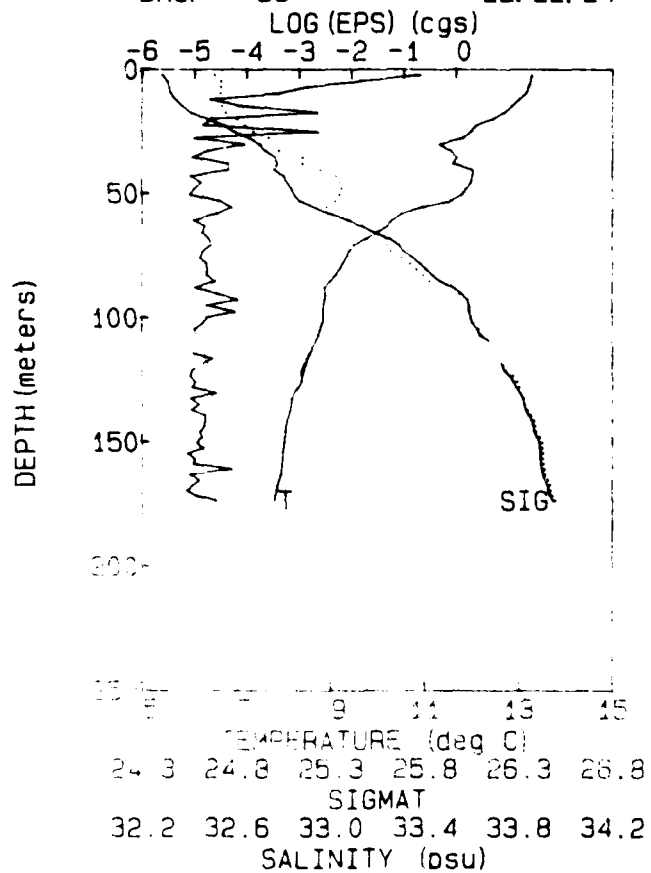
TAPE 156 06-05-87
DROP 54 22: 08: 03

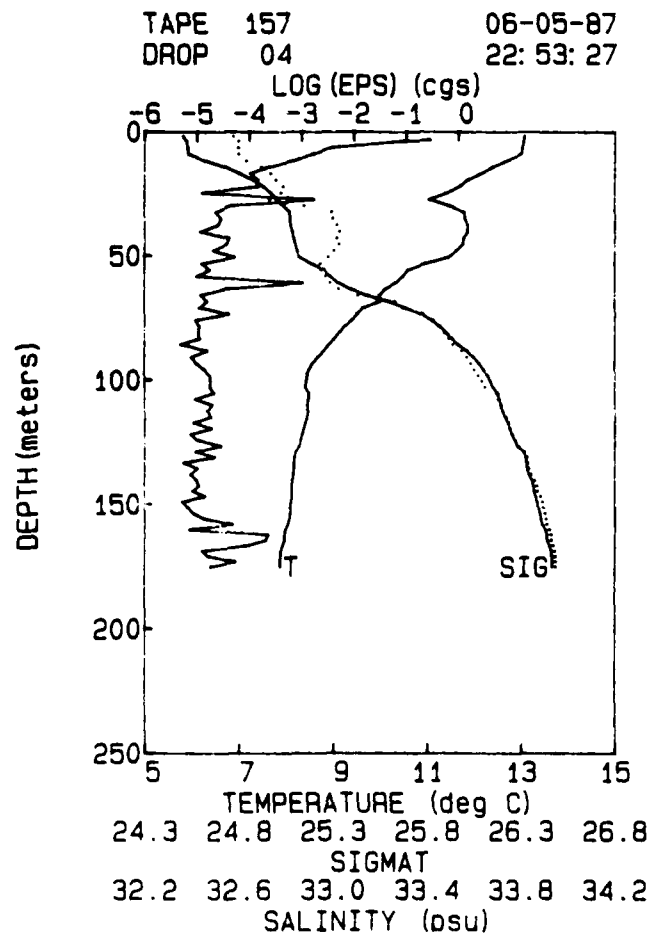
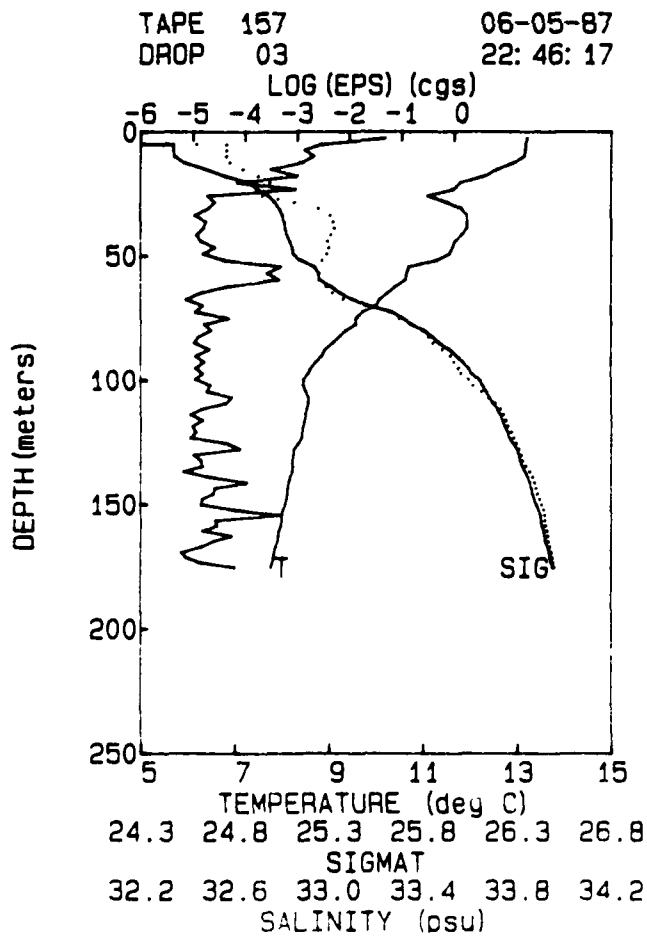
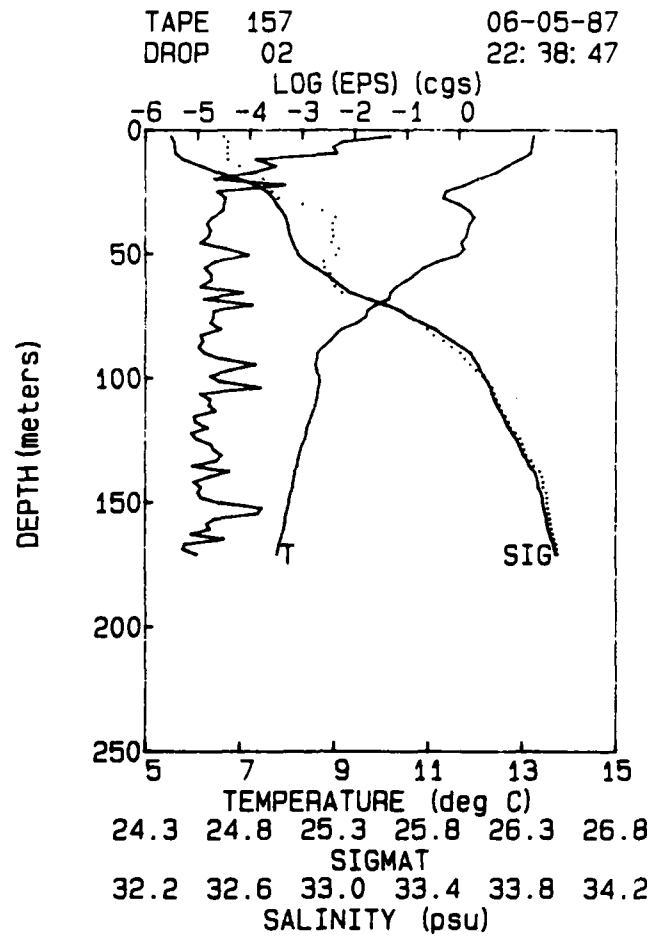
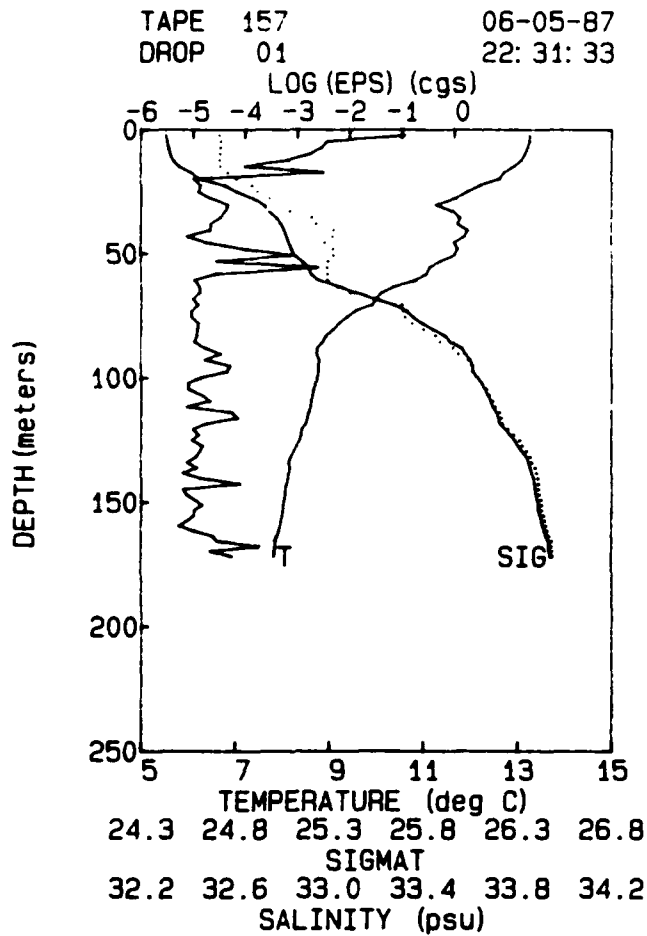


TAPE 156 06-05-87
DROP 55 22: 15: 14

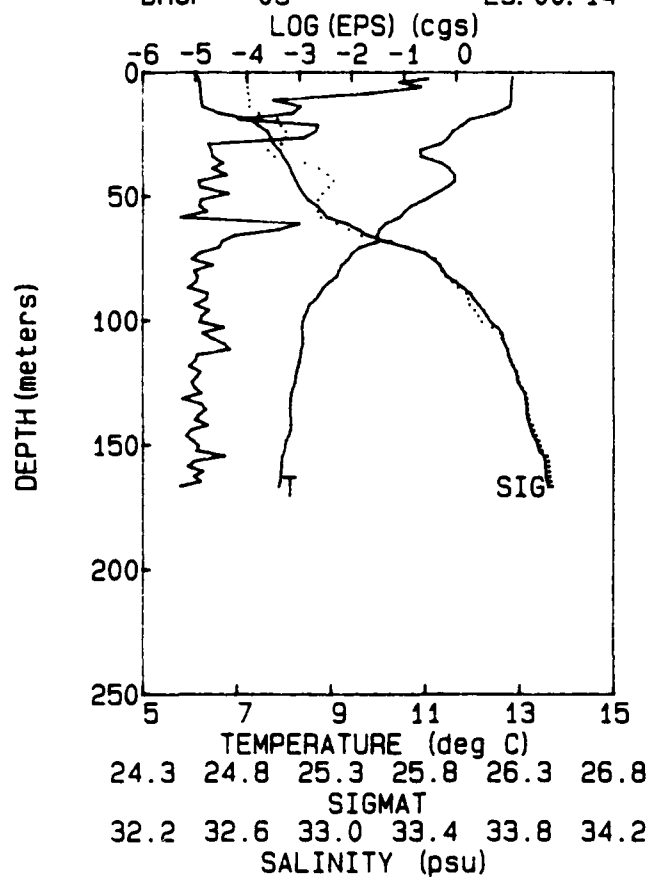


TAPE 156 06-05-87
DROP 56 22: 22: 24

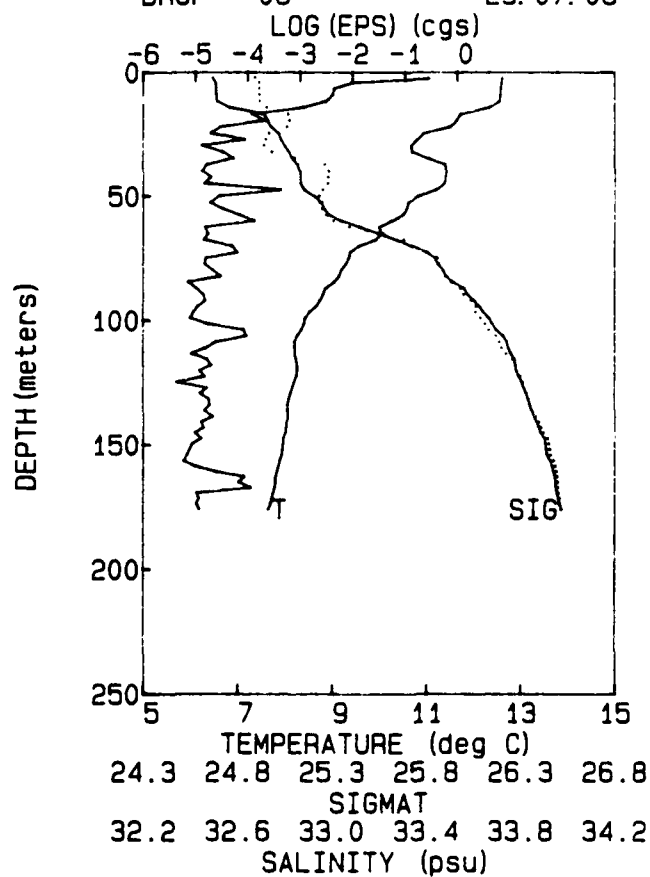




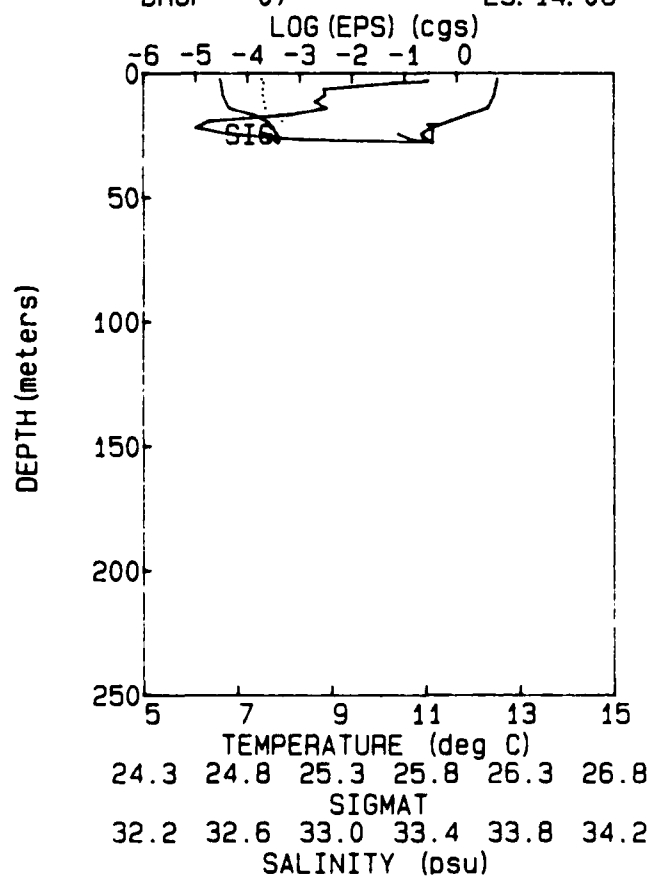
TAPE 157 06-05-87
DROP 05 23: 00: 14



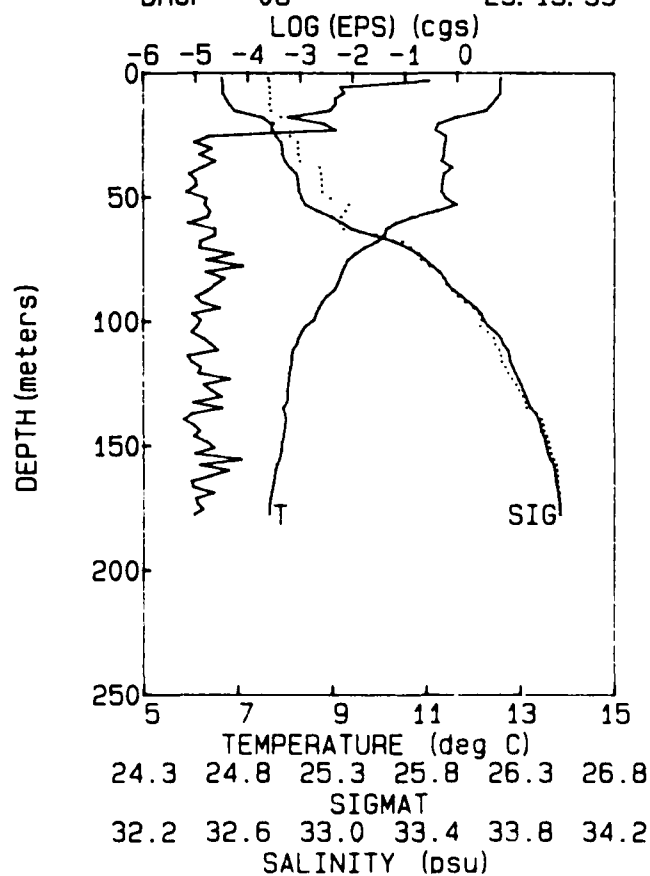
TAPE 157 06-05-87
DROP 06 23: 07: 08



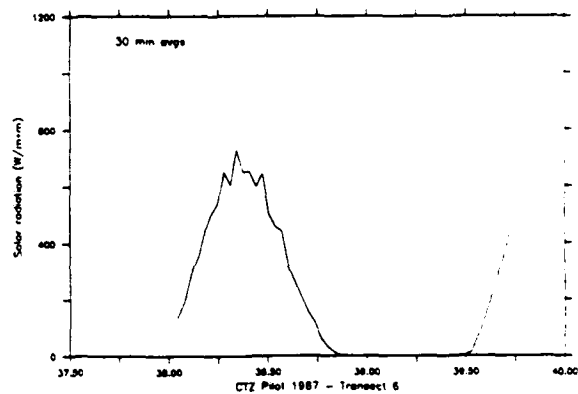
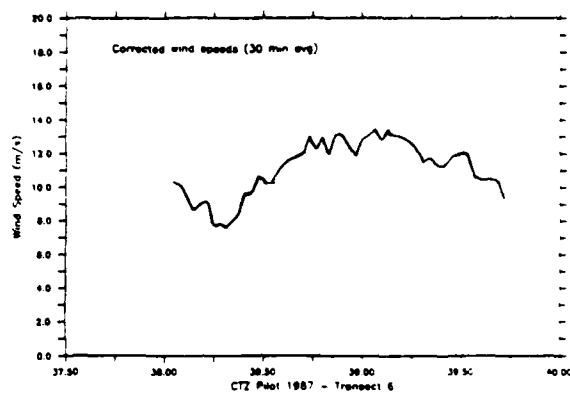
TAPE 157 06-05-87
DROP 07 23: 14: 06

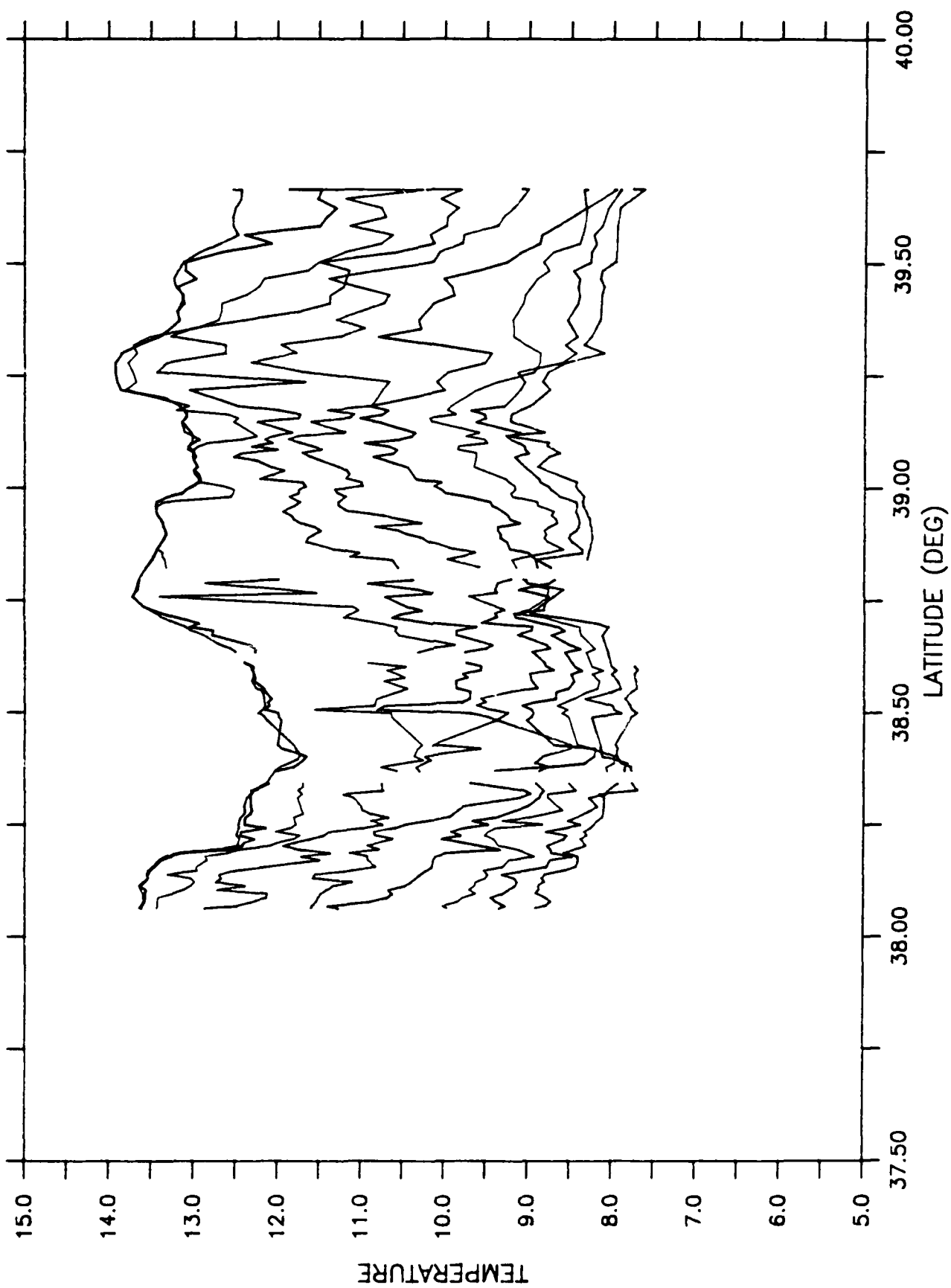


TAPE 157 06-05-87
DROP 08 23: 15: 59

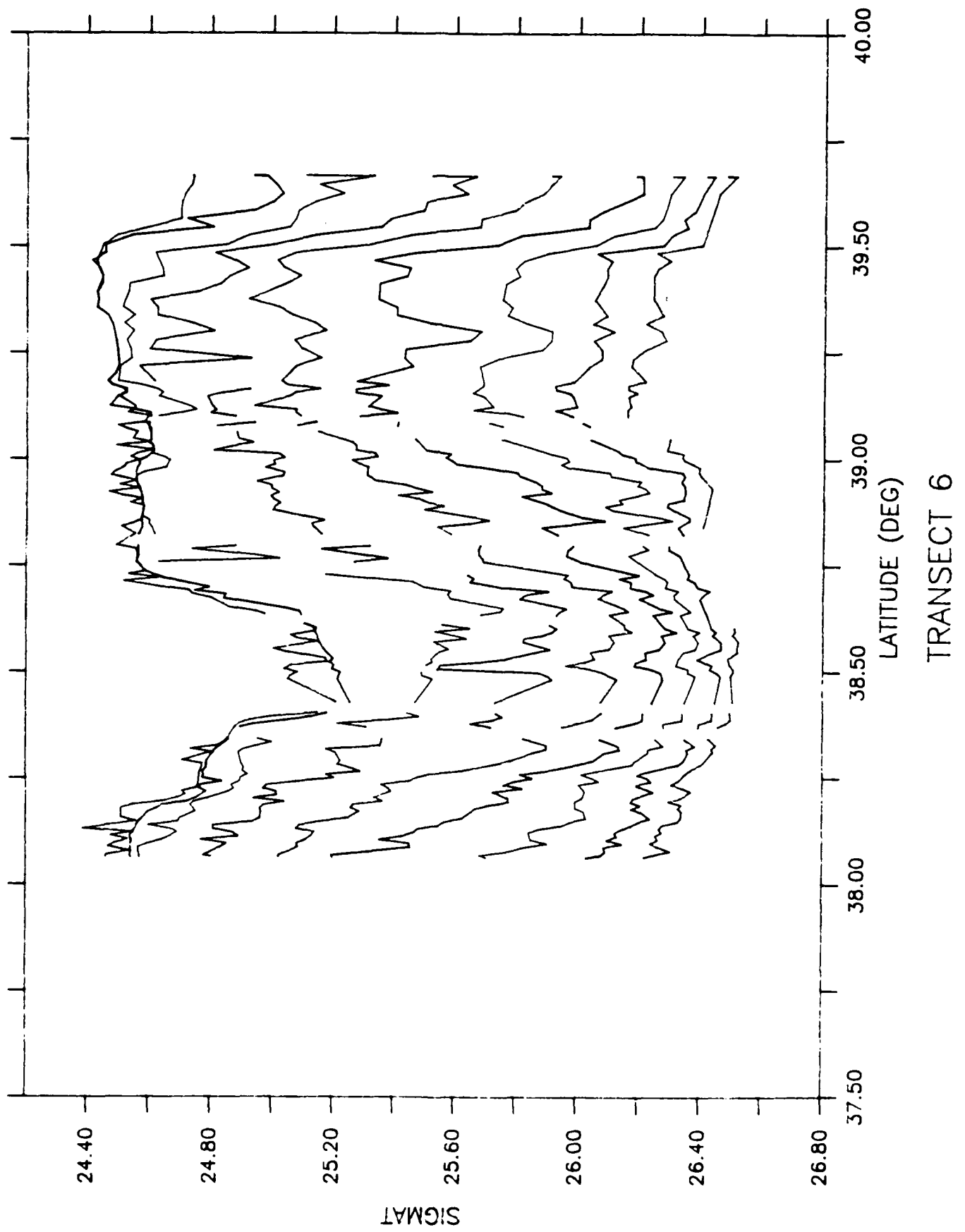


TRANSECT 6

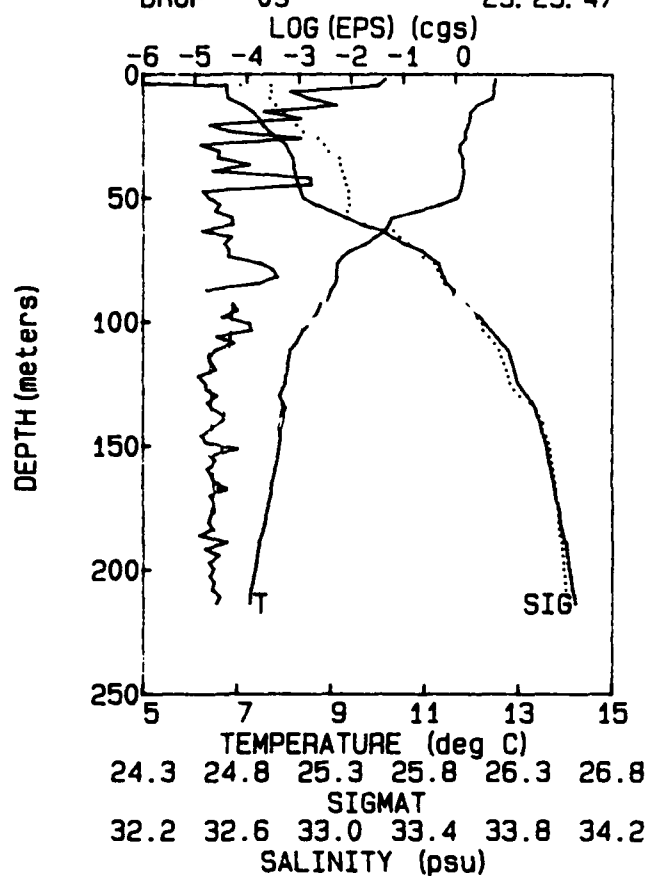




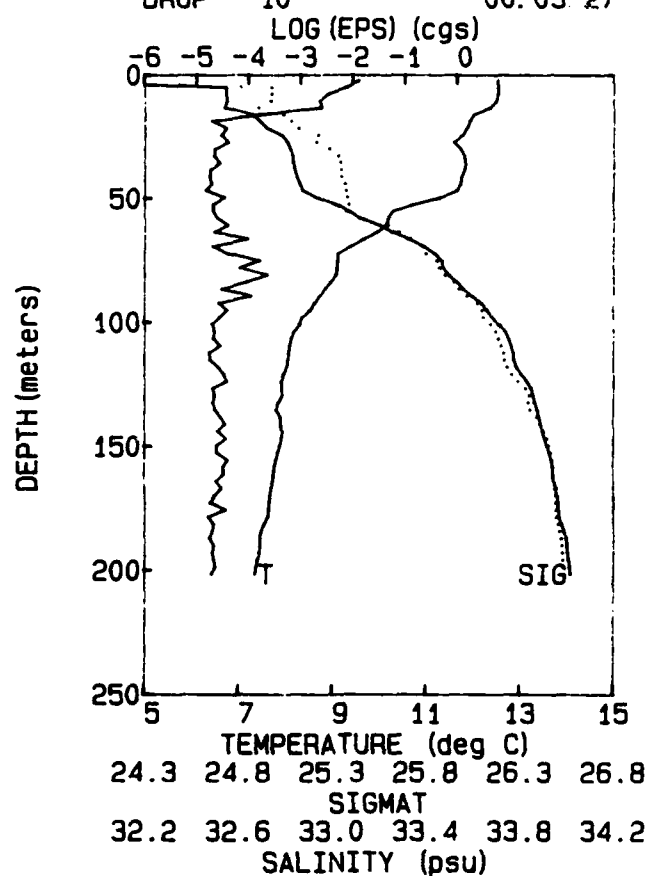
TRANSECT 6



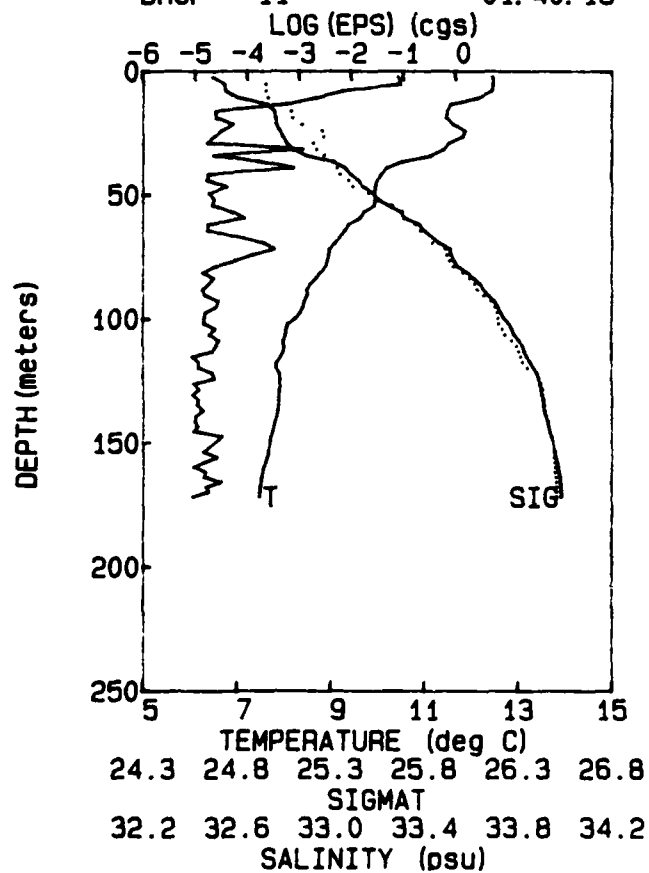
TAPE 157 06-05-87
DROP 09 23: 23: 47



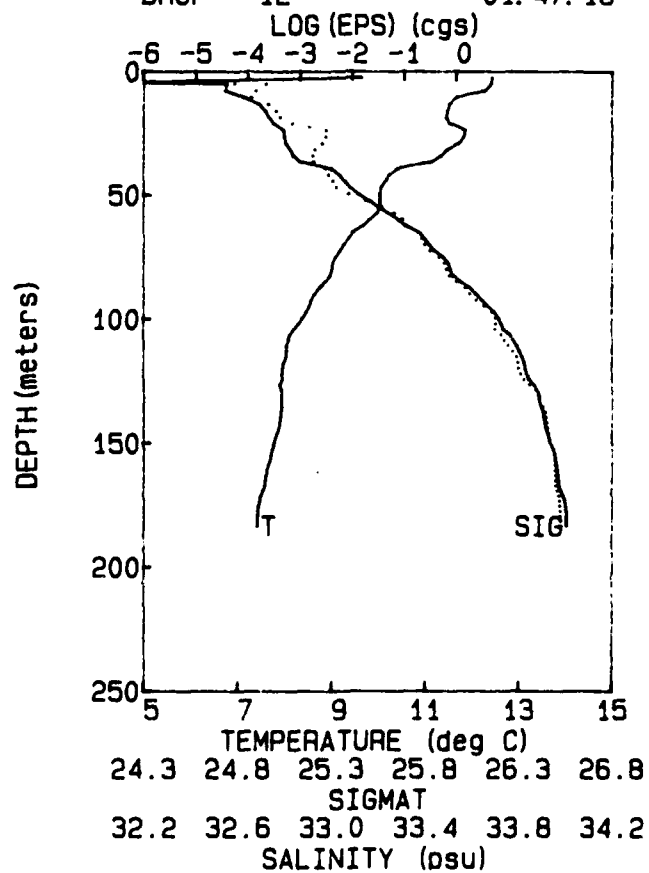
TAPE 157 06-06-87
DROP 10 00: 03: 27



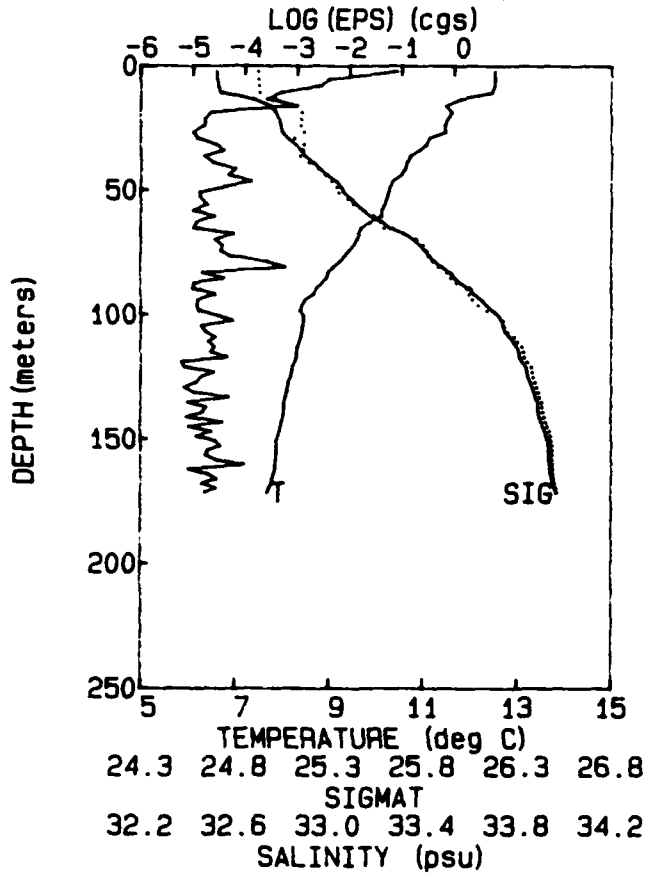
TAPE 157 06-06-87
DROP 11 01: 40: 15



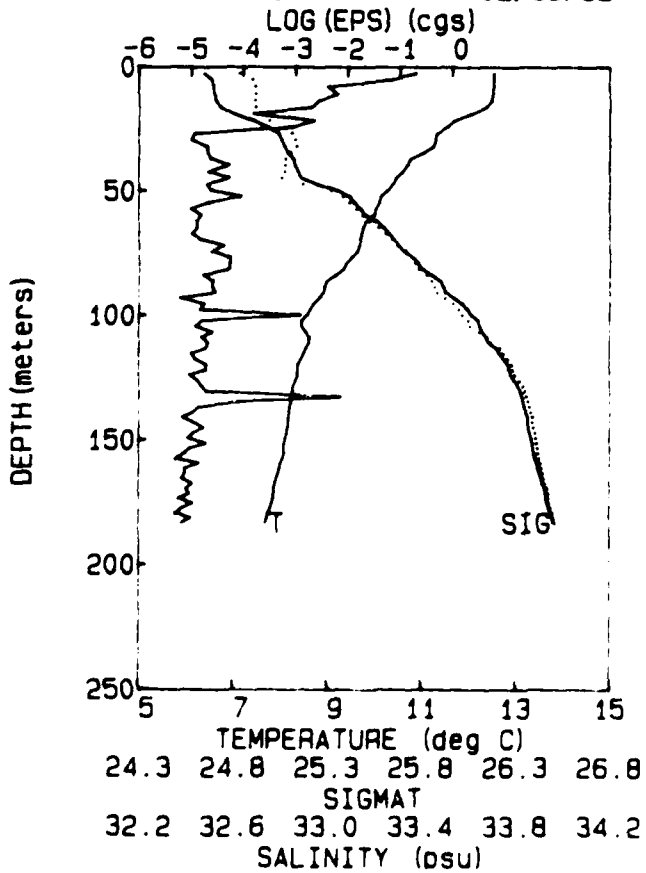
TAPE 157 06-06-87
DROP 12 01: 47: 18



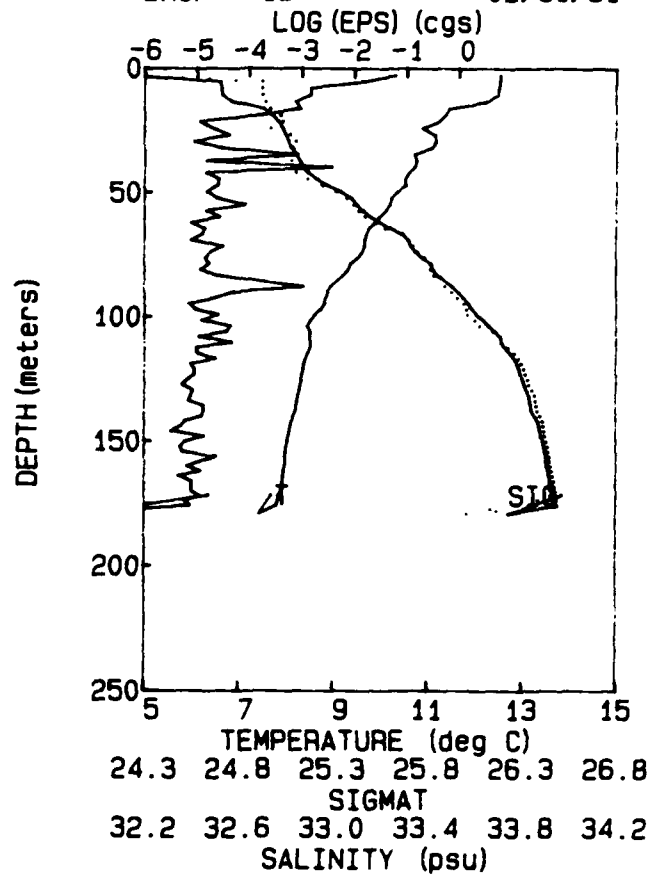
TAPE 157 06-06-87
DROP 17 02:24:08



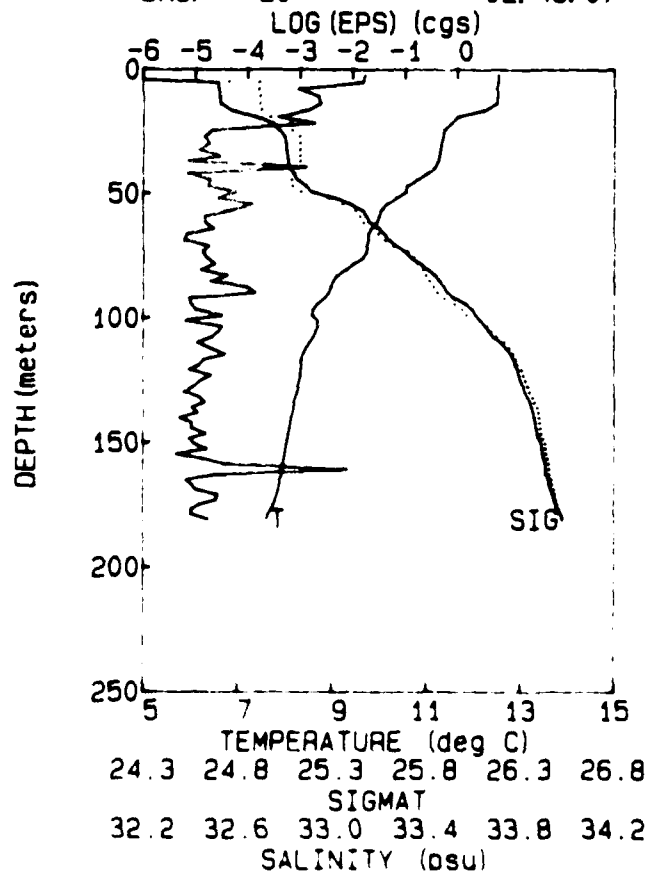
TAPE 157 06-06-87
DROP 19 02:38:52

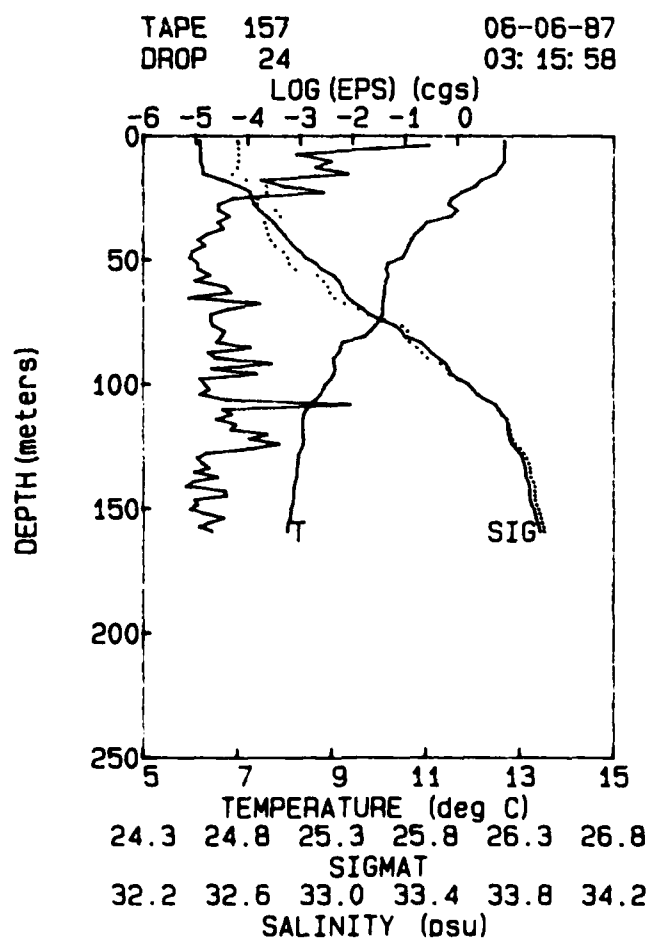
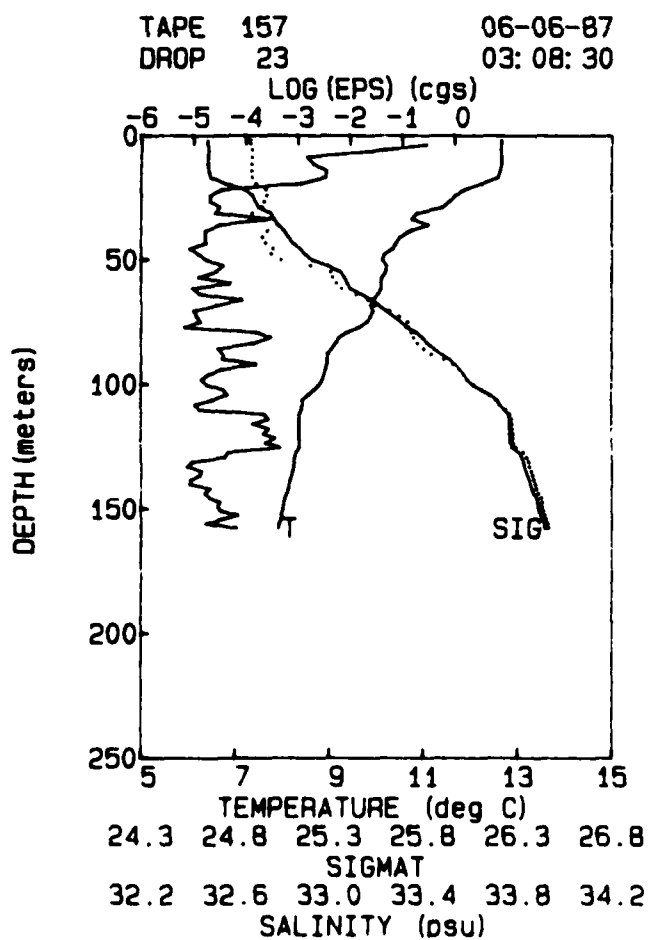
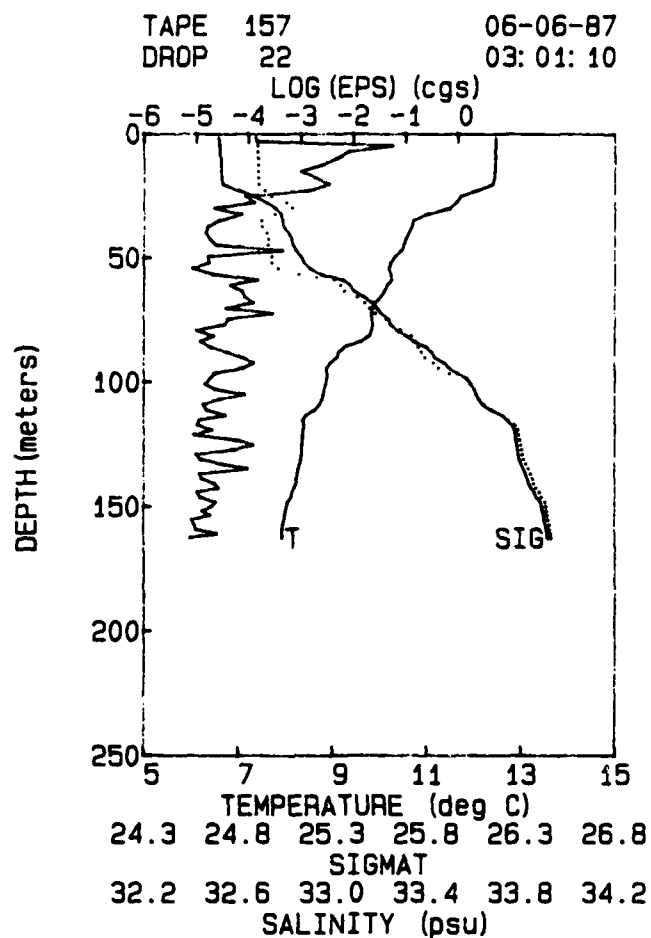
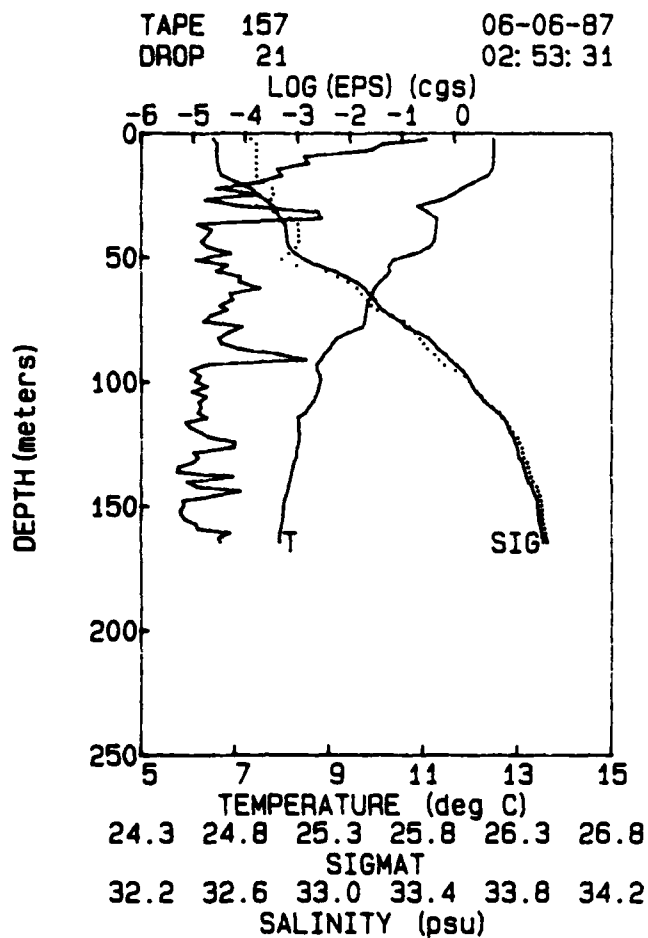


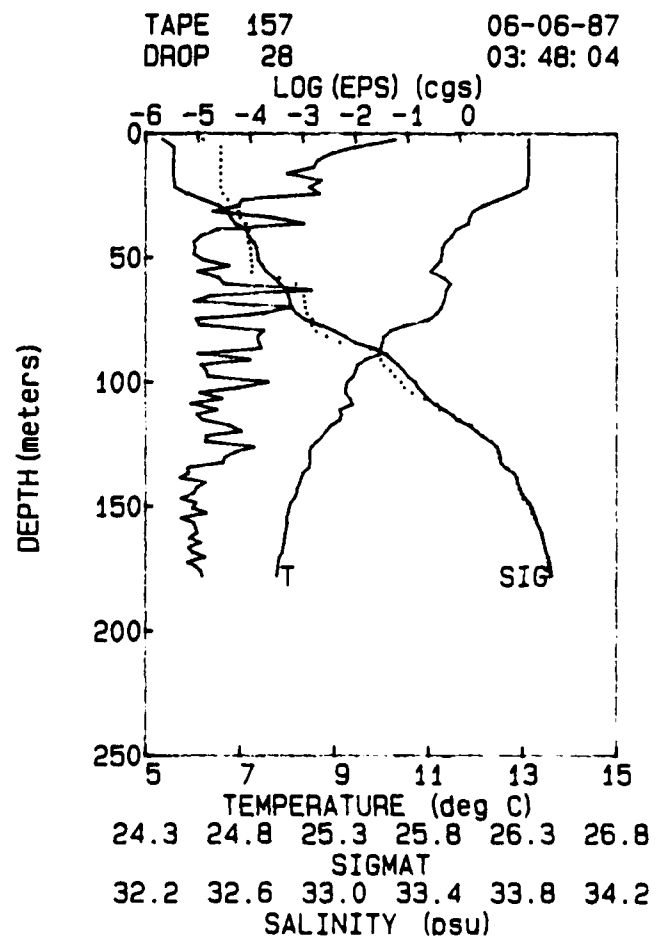
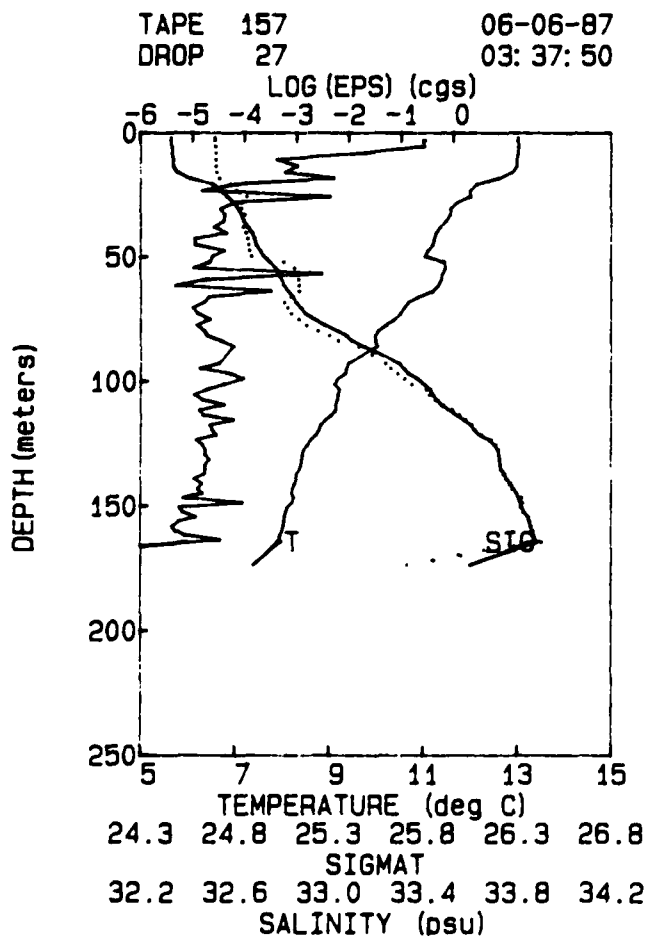
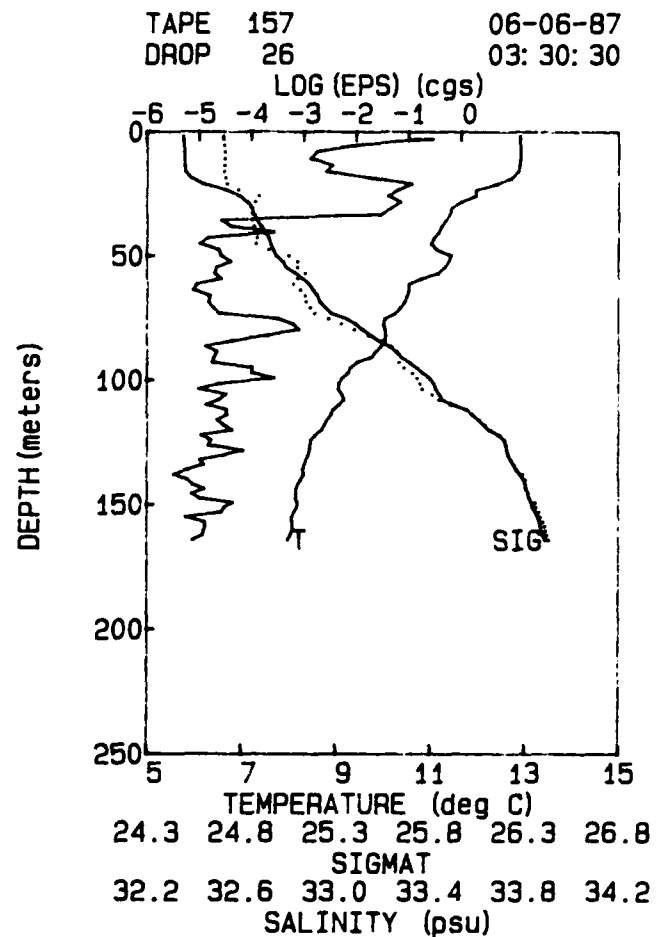
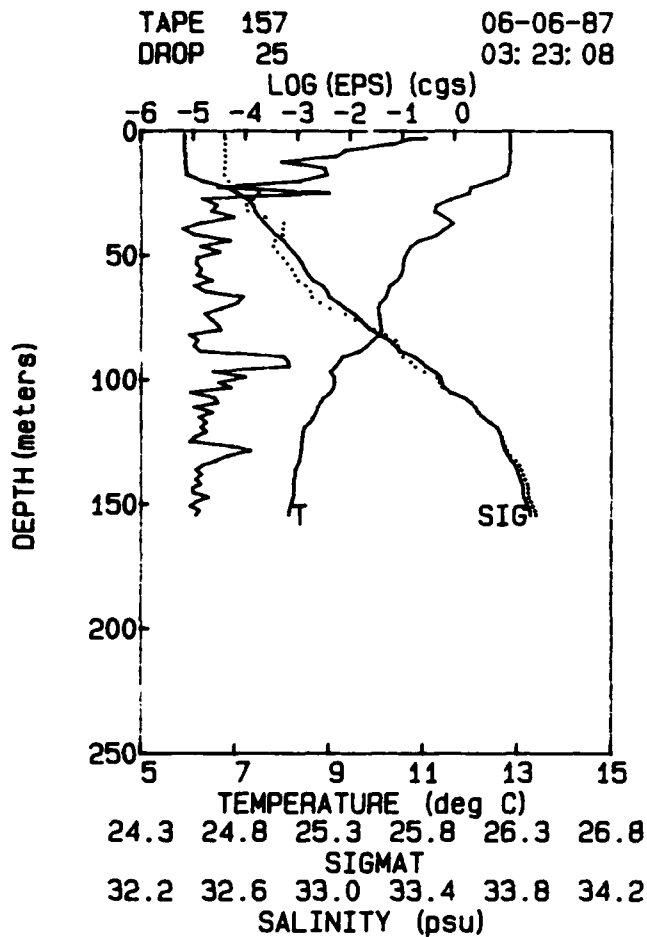
TAPE 157 06-06-87
DROP 18 02:31:31



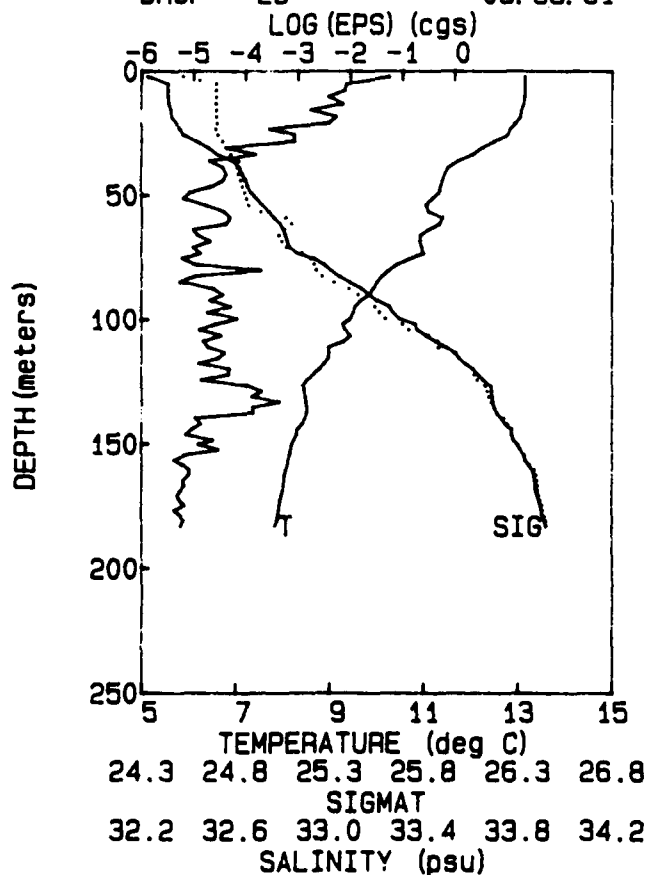
TAPE 157 06-06-87
DROP 20 02:46:07



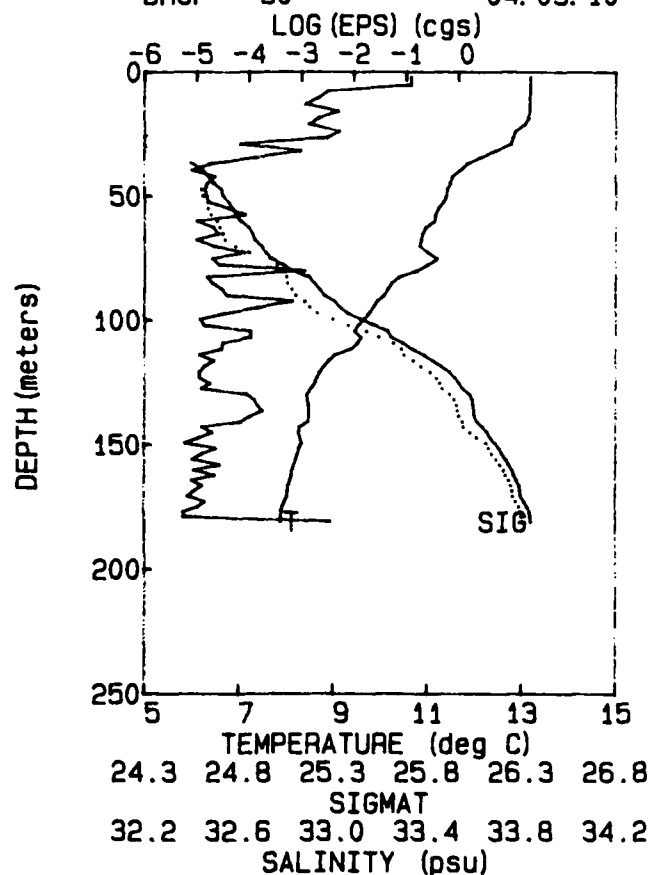




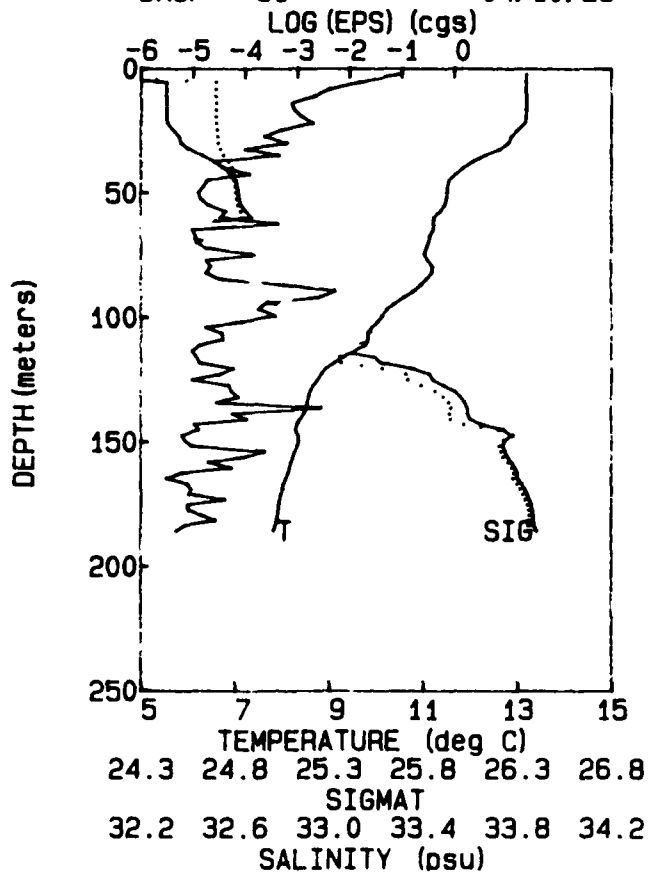
TAPE 157 06-06-87
 DROP 29 03:55:51



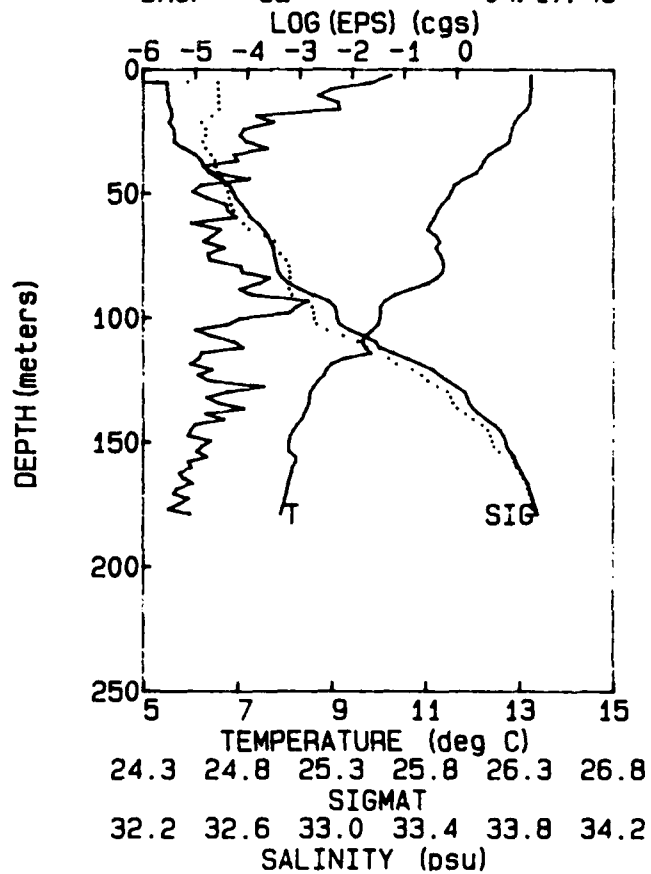
TAPE 157 06-06-87
 DROP 30 04:03:10



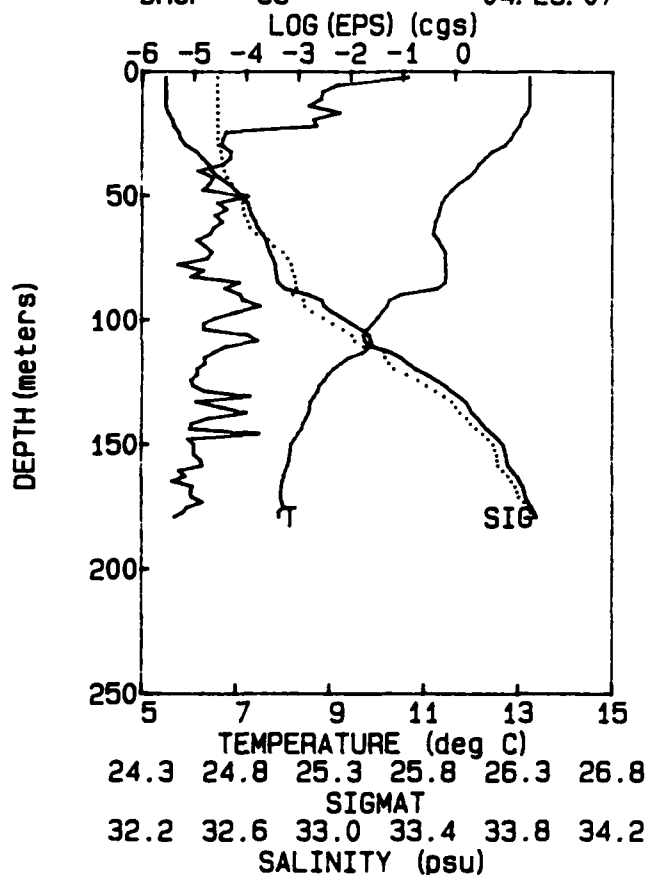
TAPE 157 06-06-87
 DROP 31 04:10:25



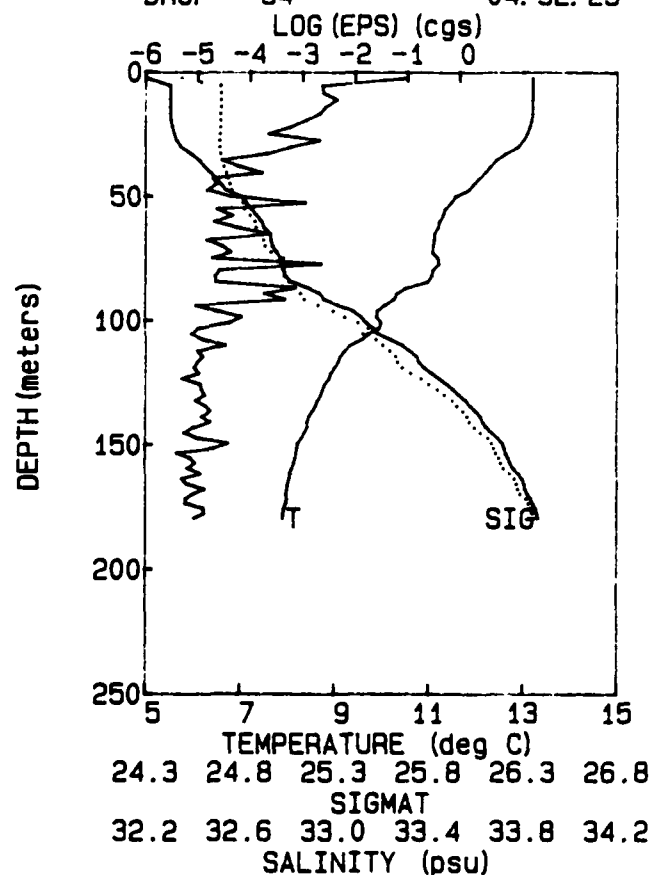
TAPE 157 06-06-87
 DROP 32 04:17:49



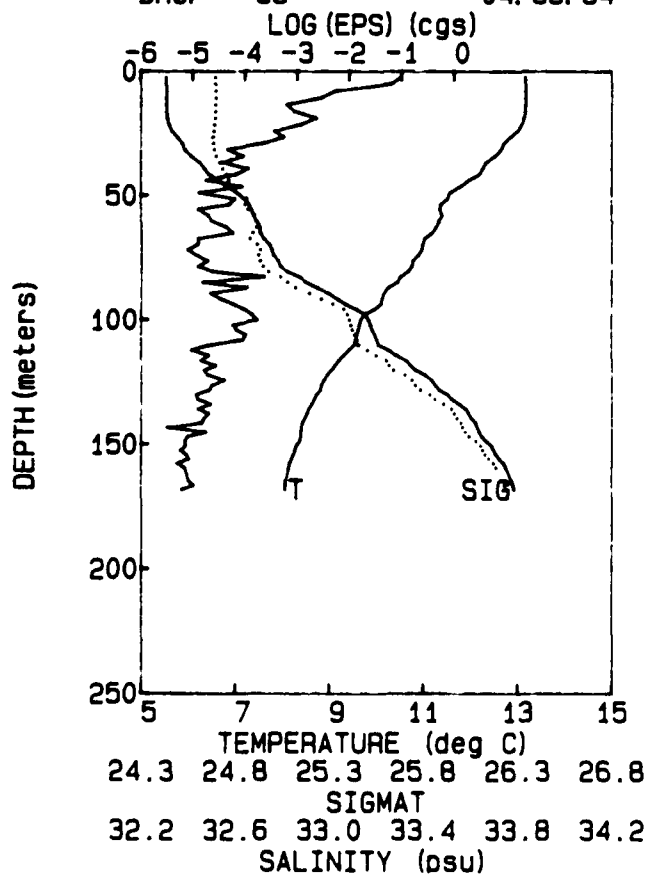
TAPE 157 06-06-87
DROP 33 04: 25: 07



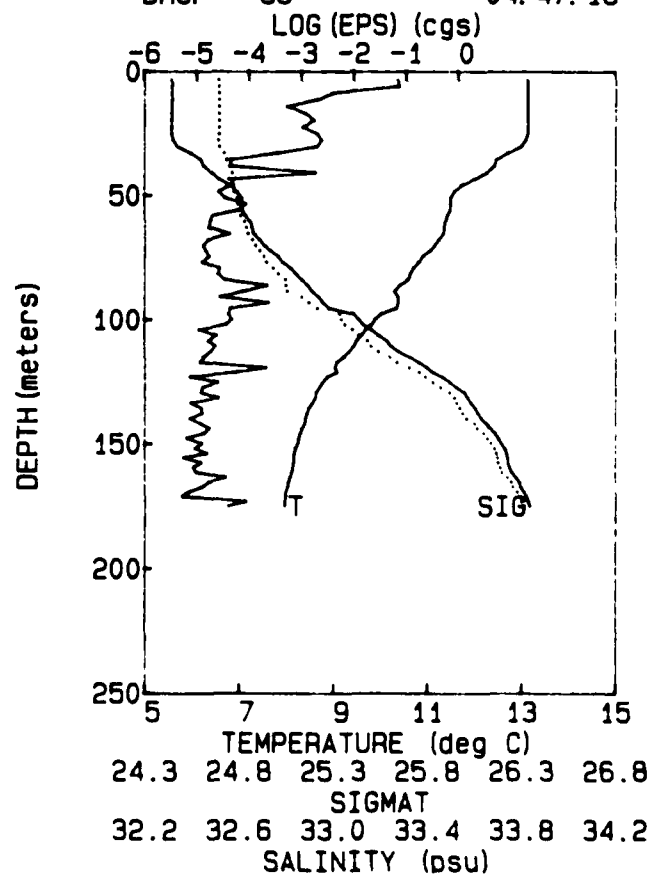
TAPE 157 06-06-87
DROP 34 04: 32: 25

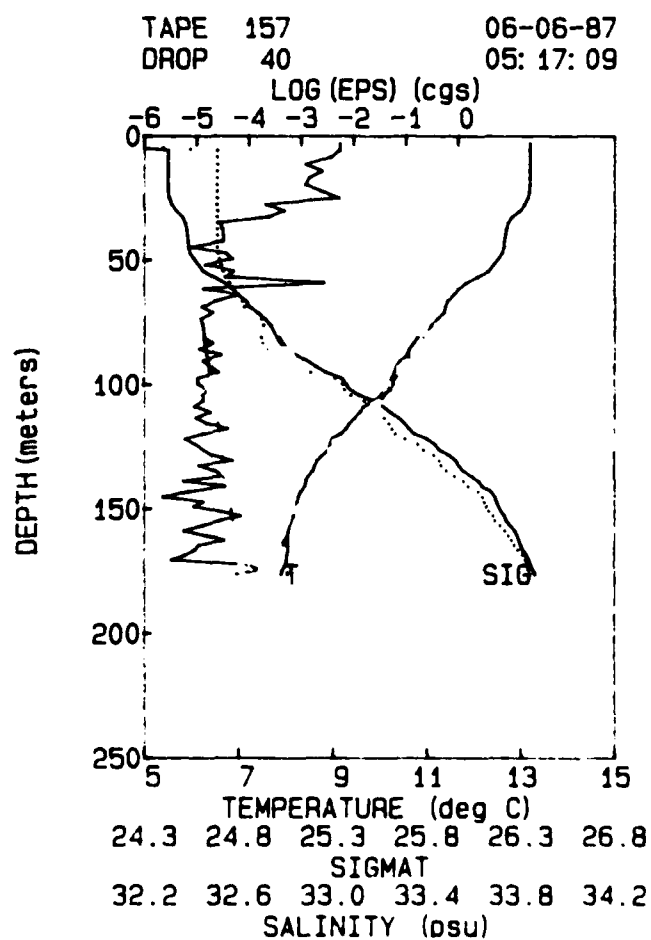
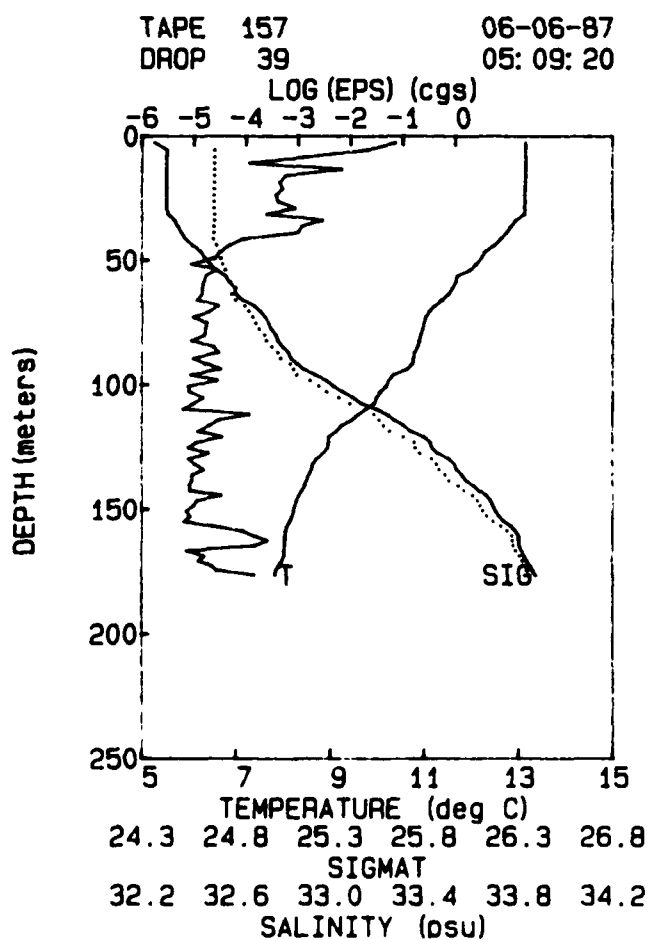
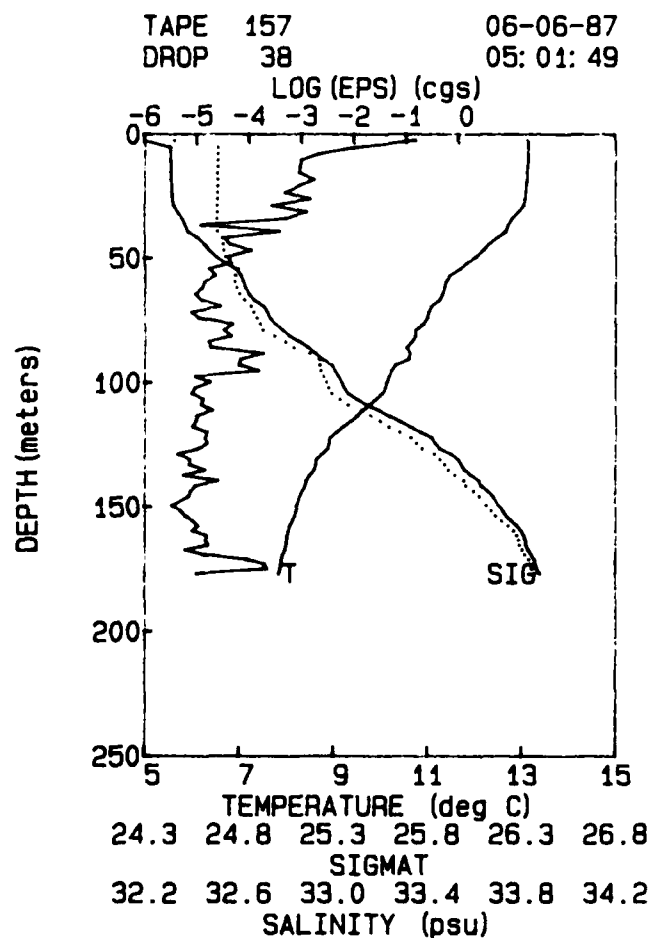
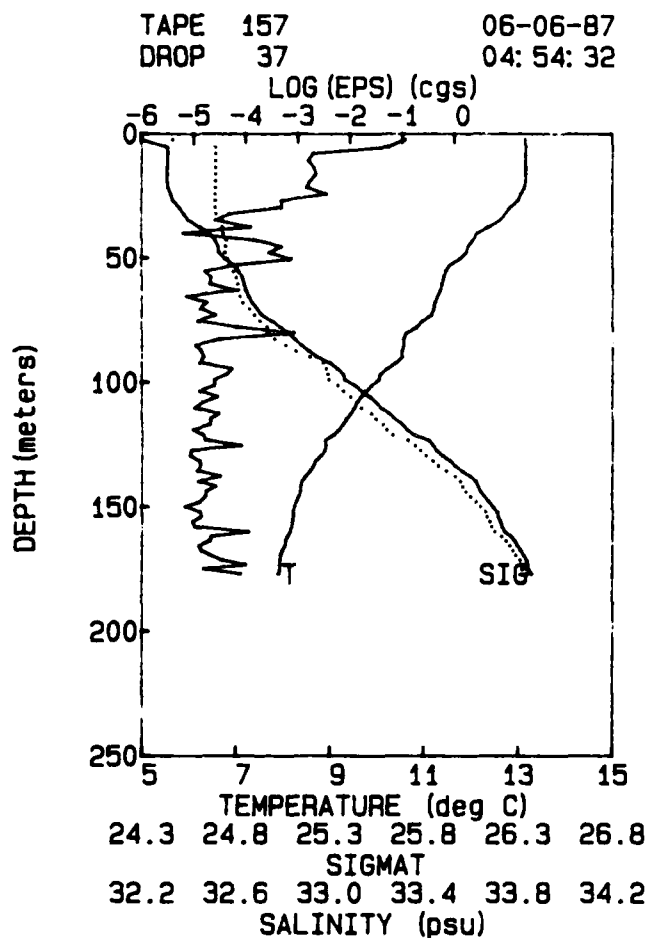


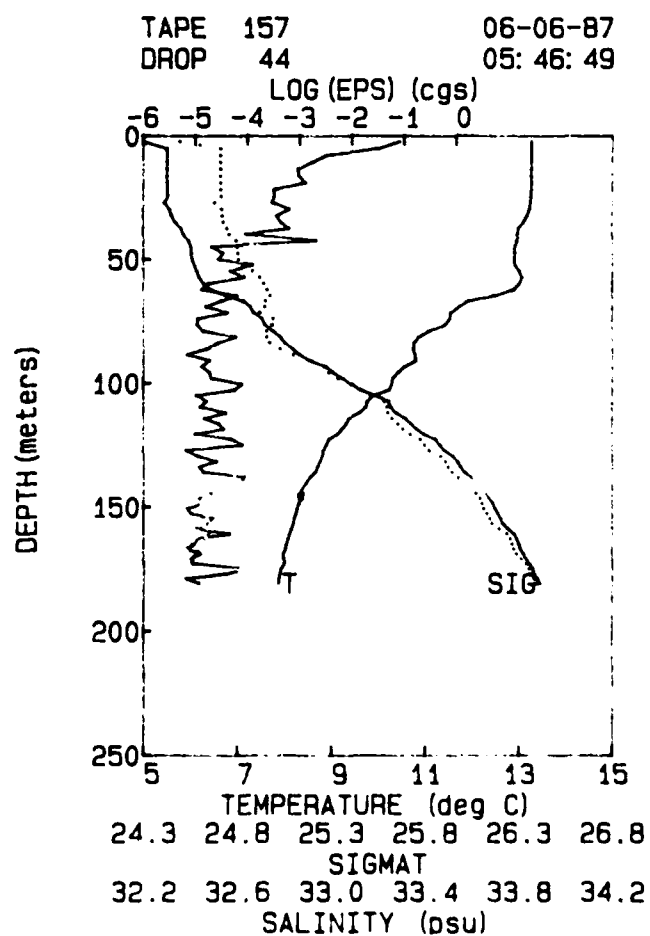
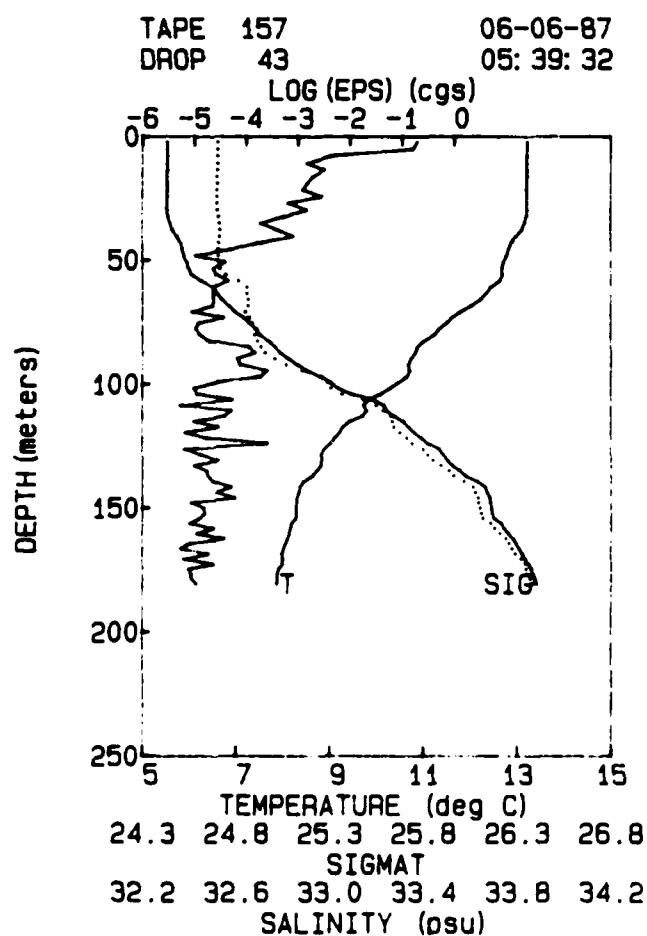
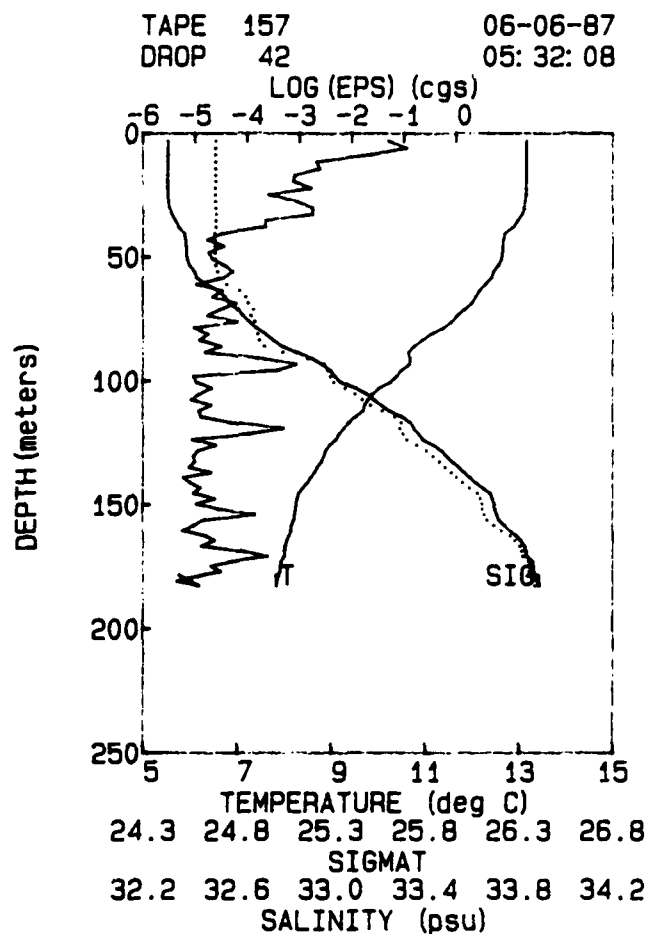
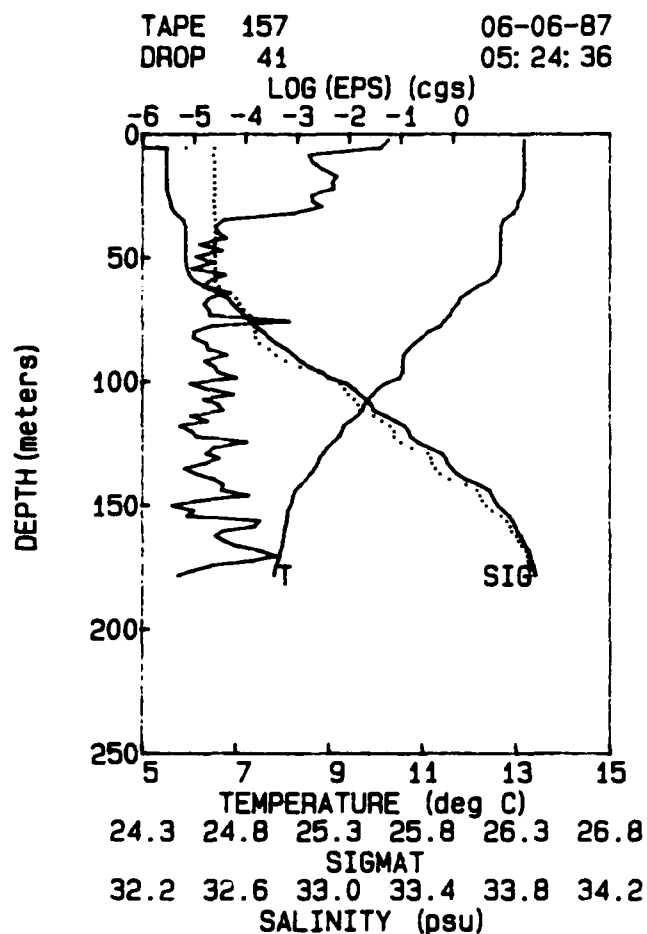
TAPE 157 06-06-87
DROP 35 04: 39: 54

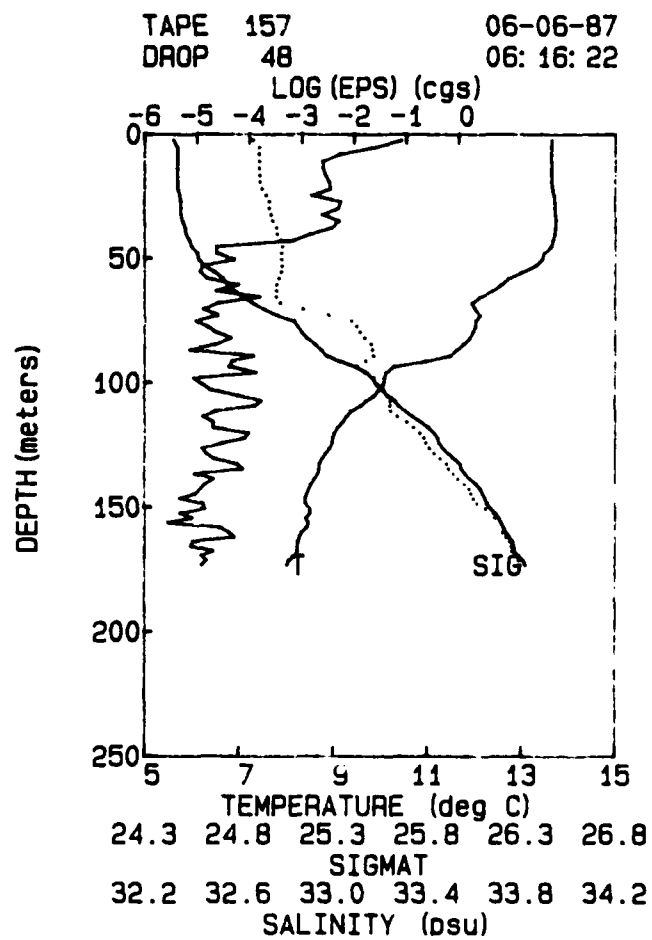
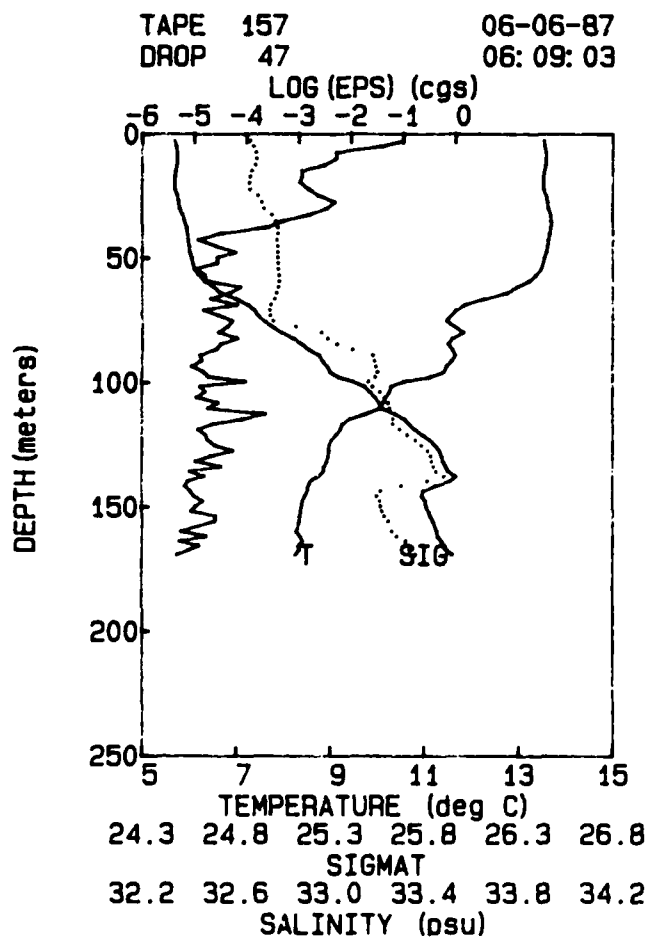
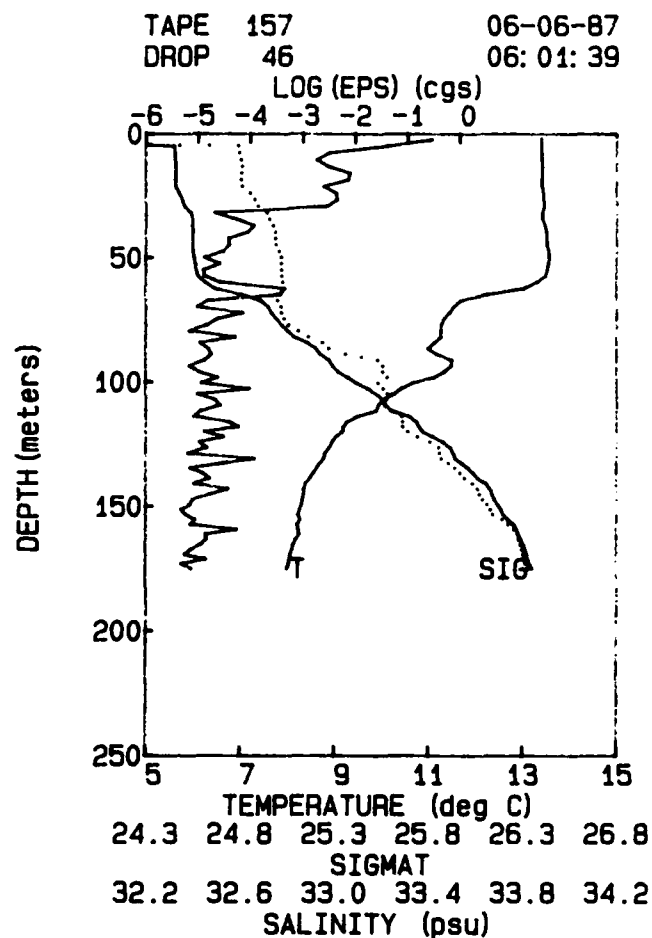
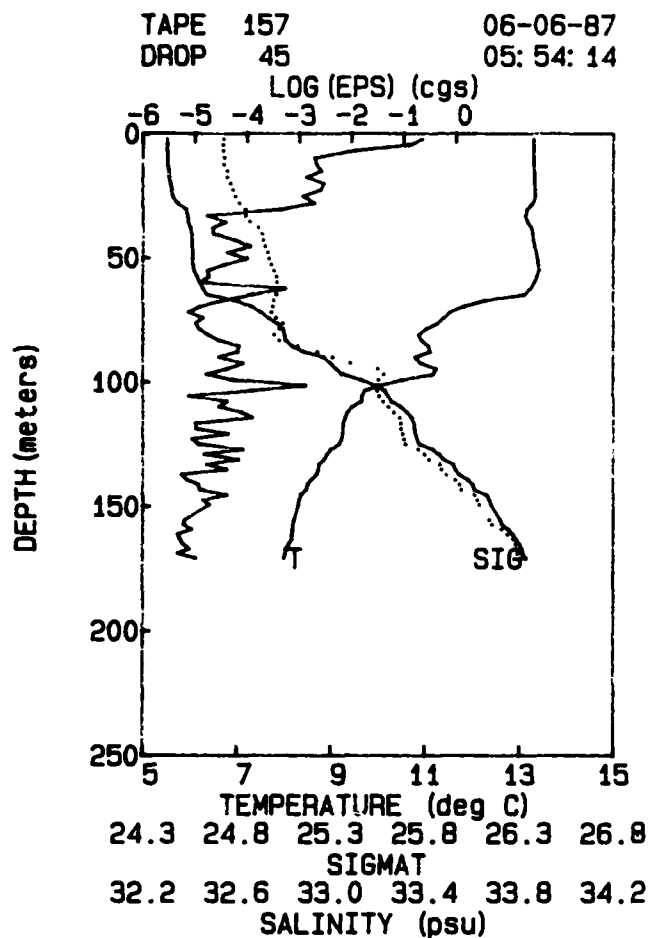


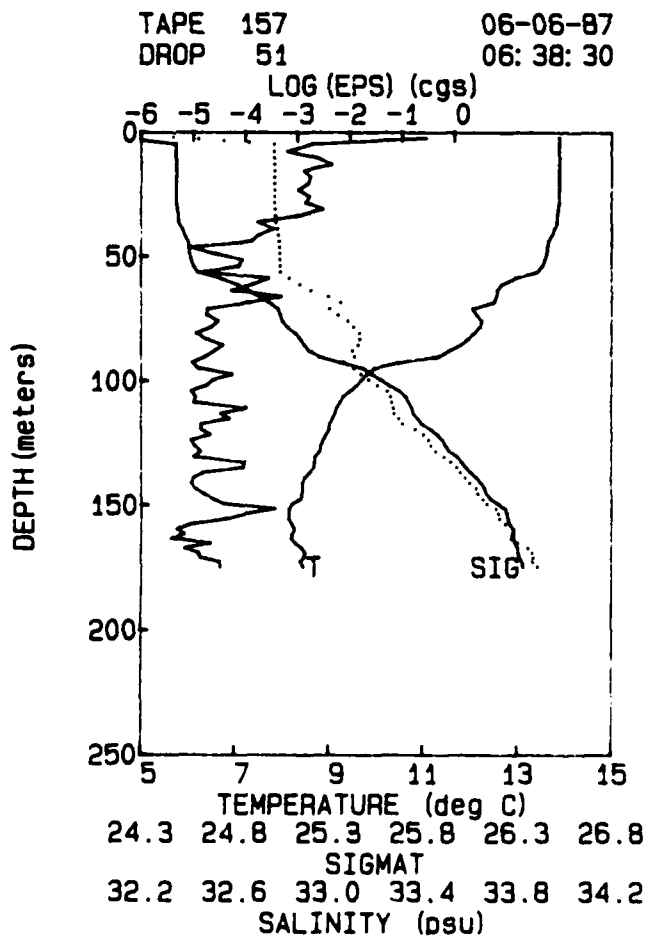
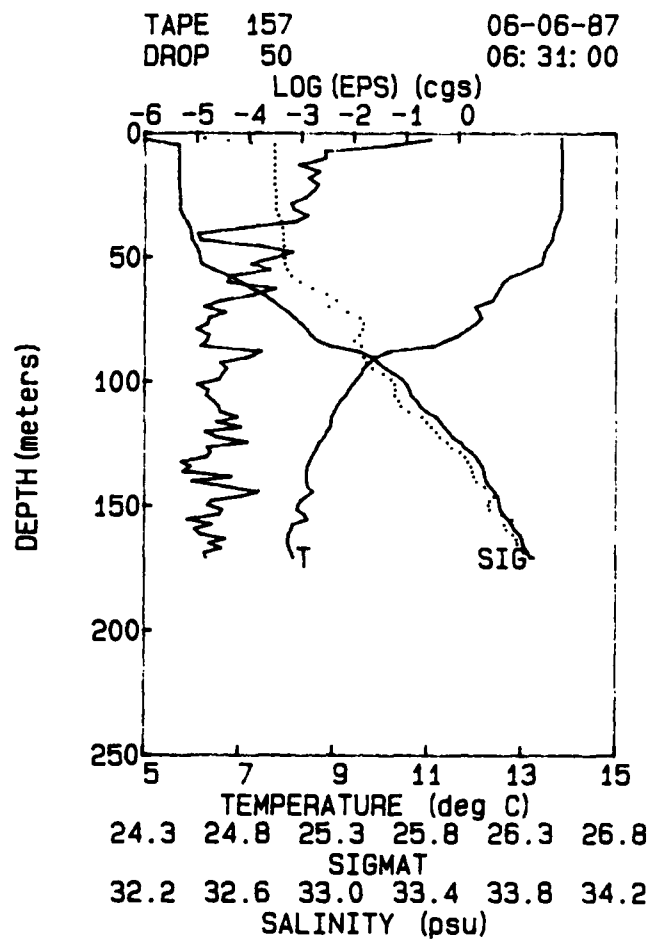
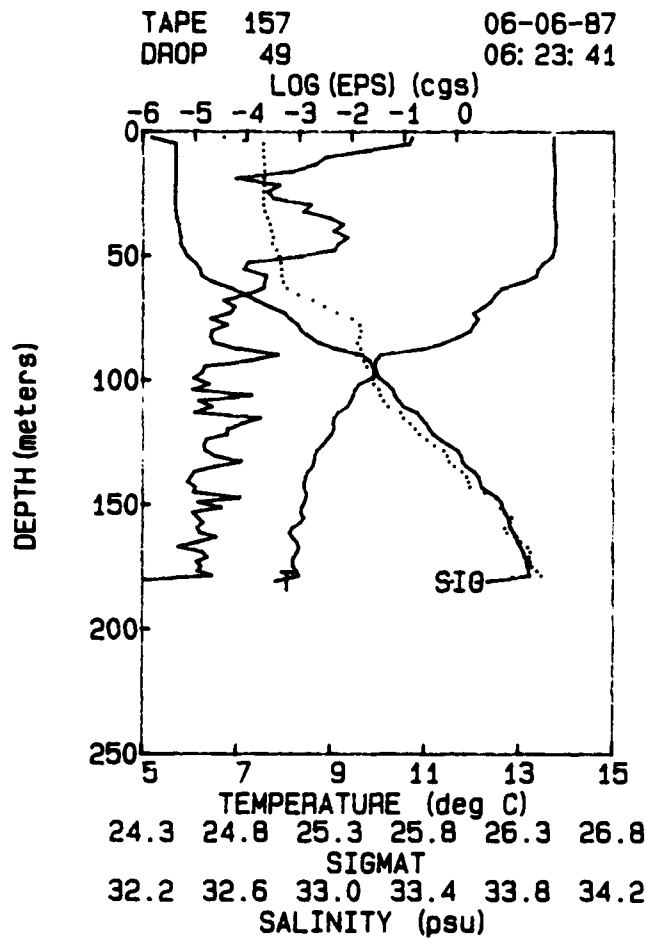
TAPE 157 06-06-87
DROP 36 04: 47: 18

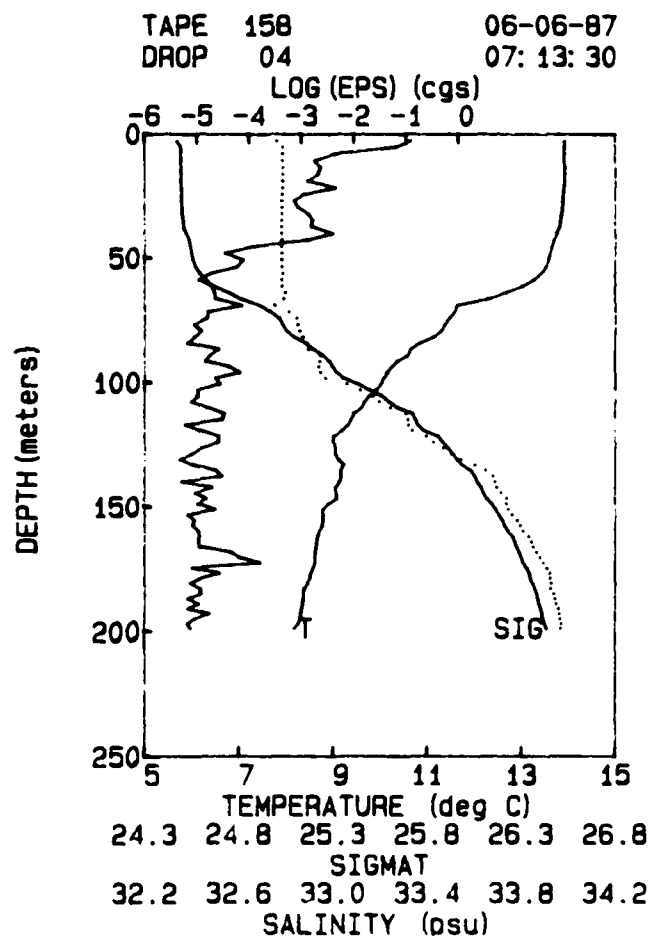
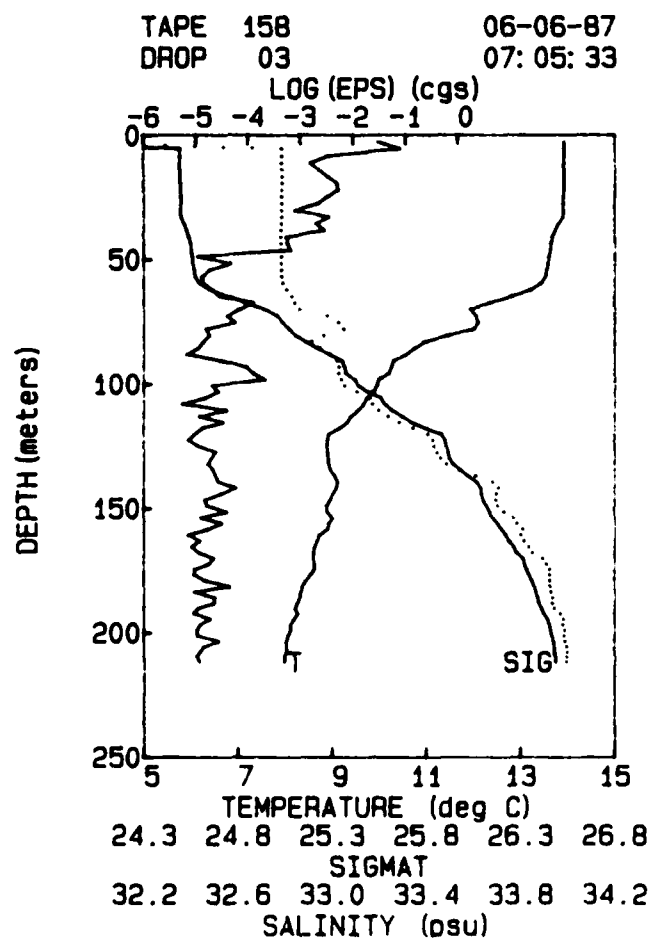
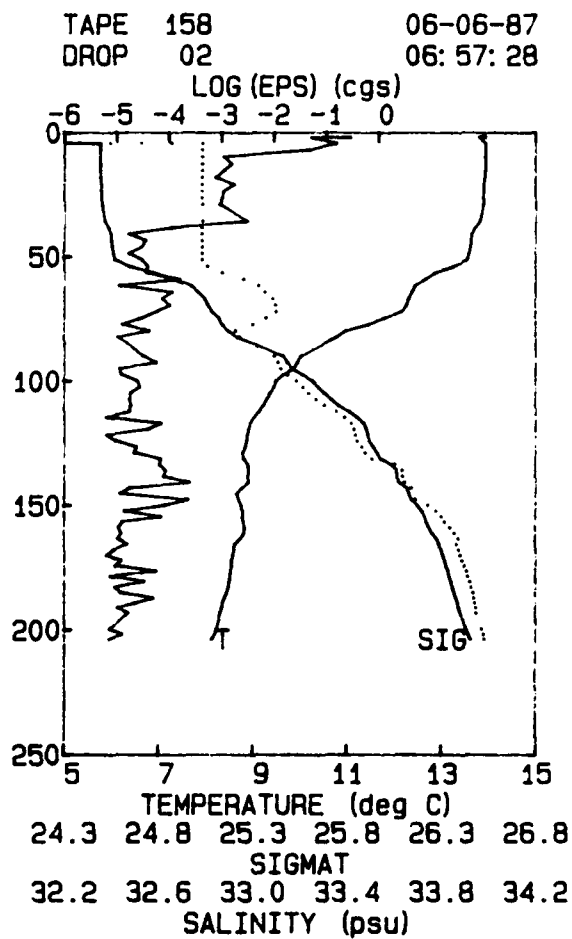
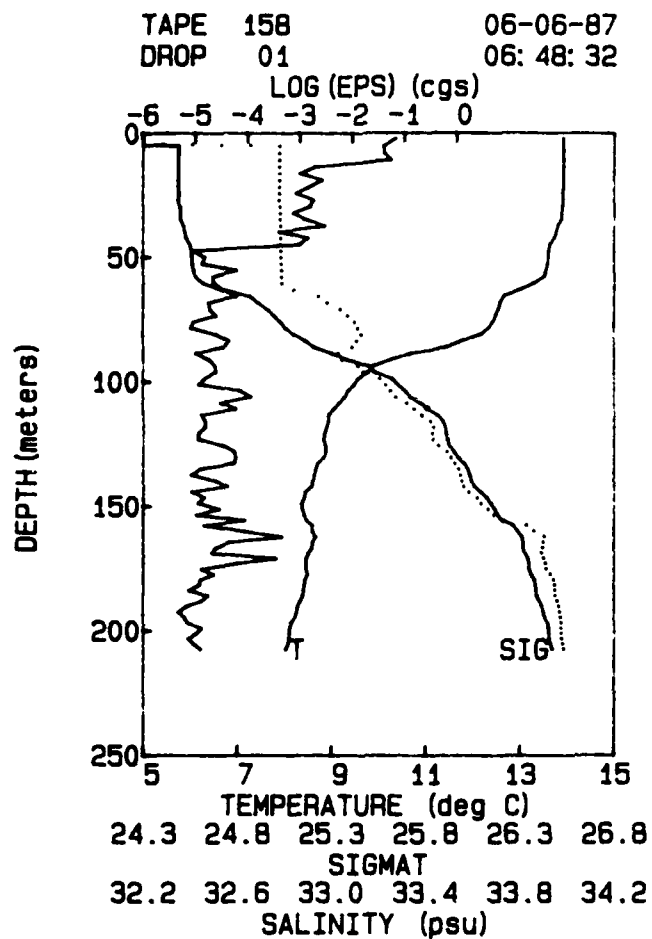




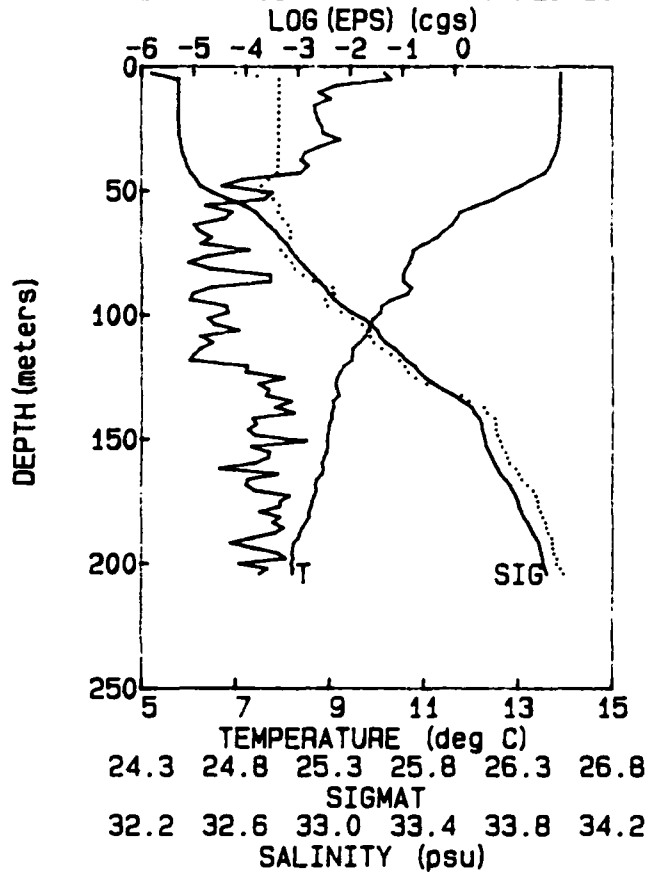




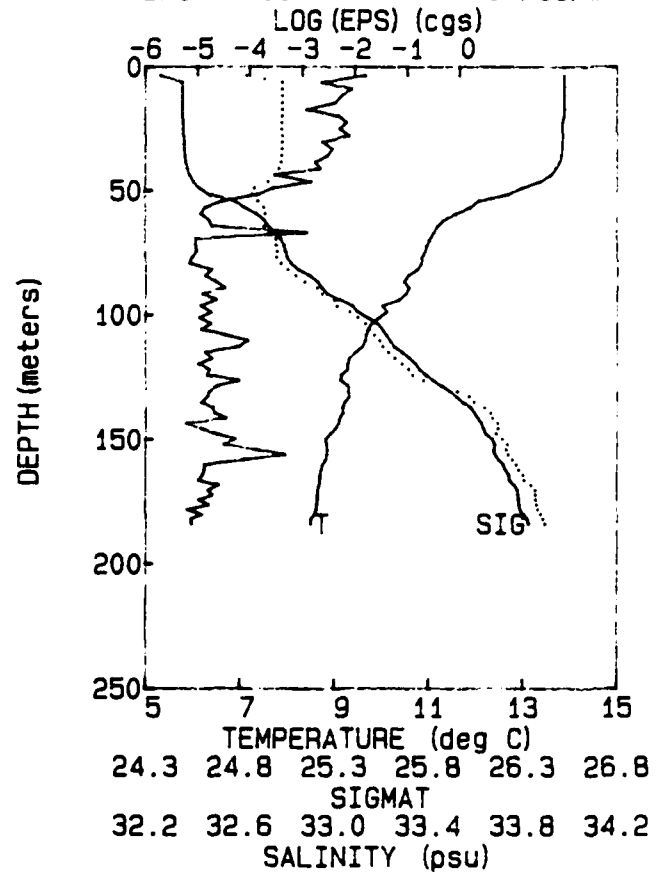




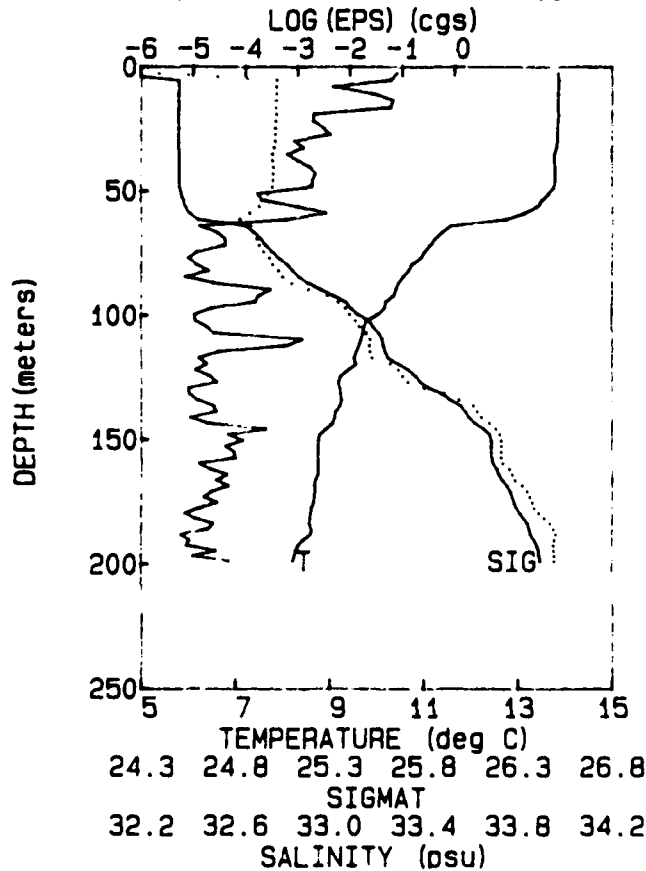
TAPE 158 06-06-87
DROP 05 07: 23: 23



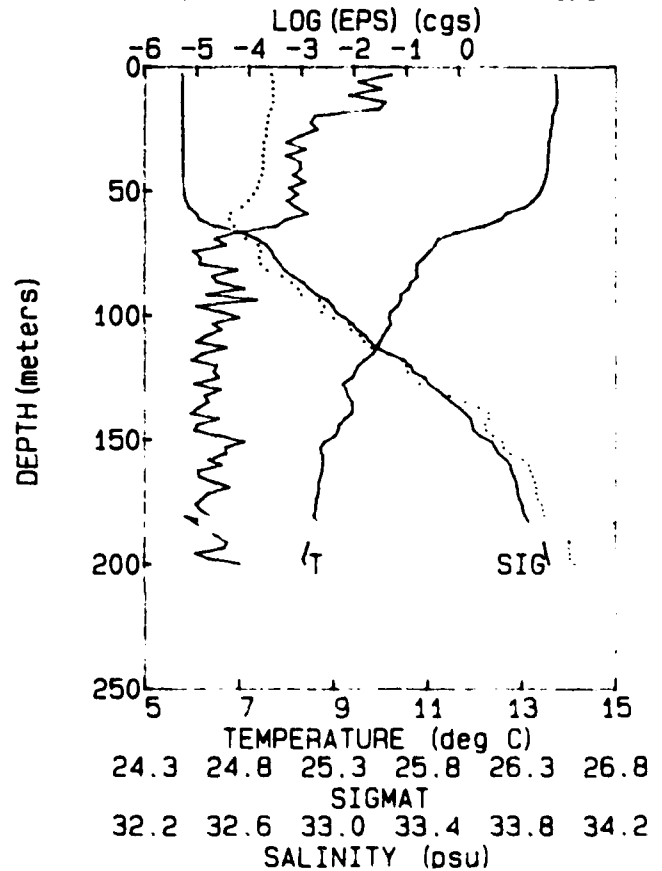
TAPE 158 06-06-87
DROP 06 07: 31: 18

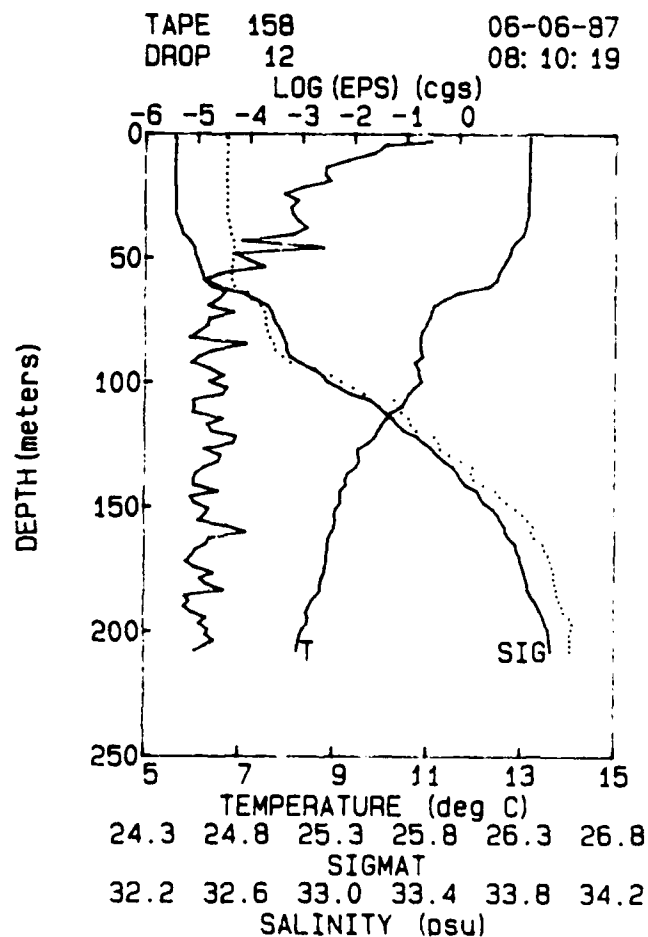
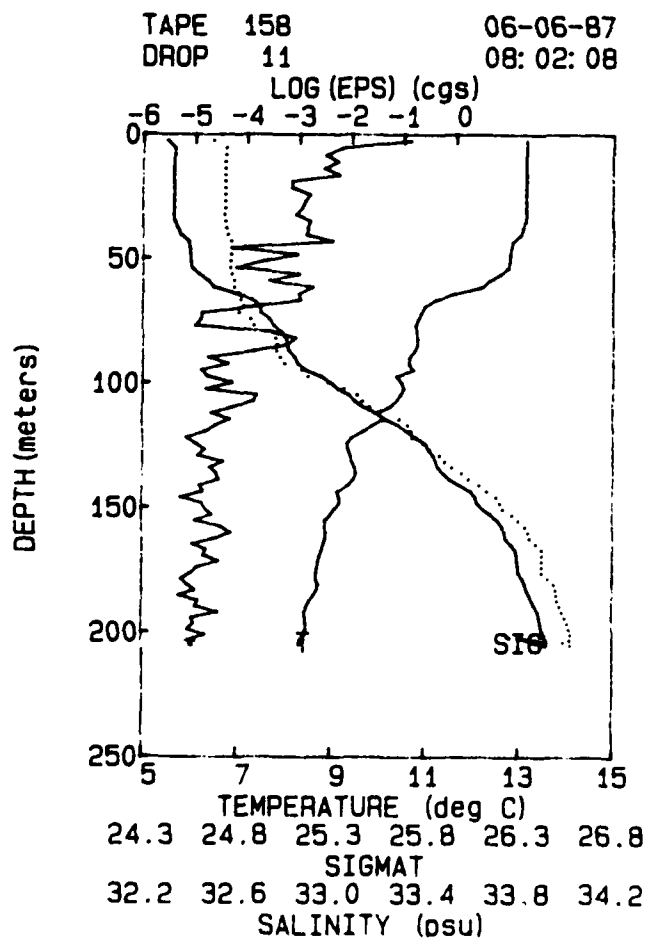
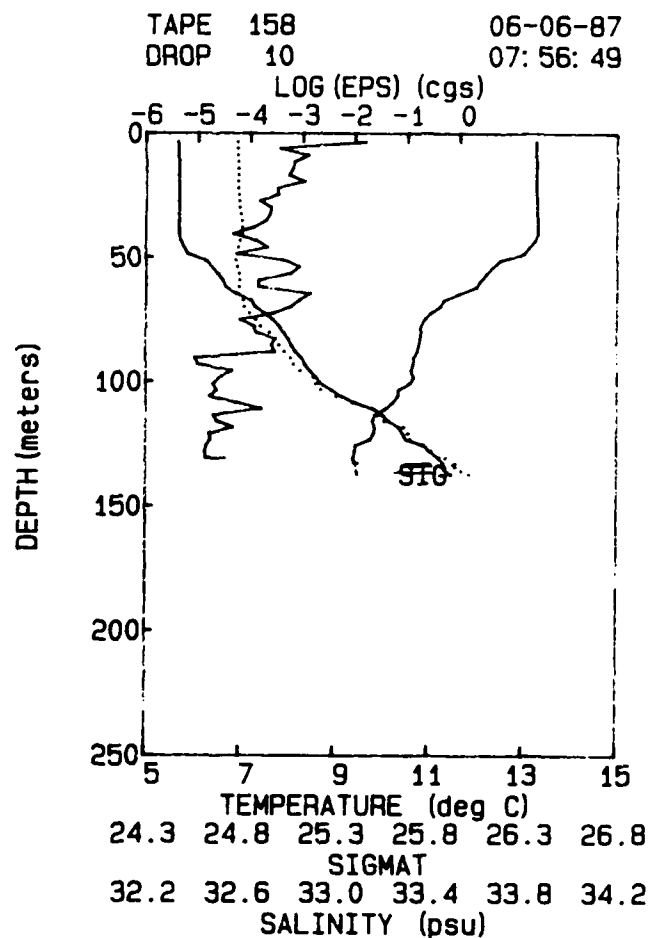
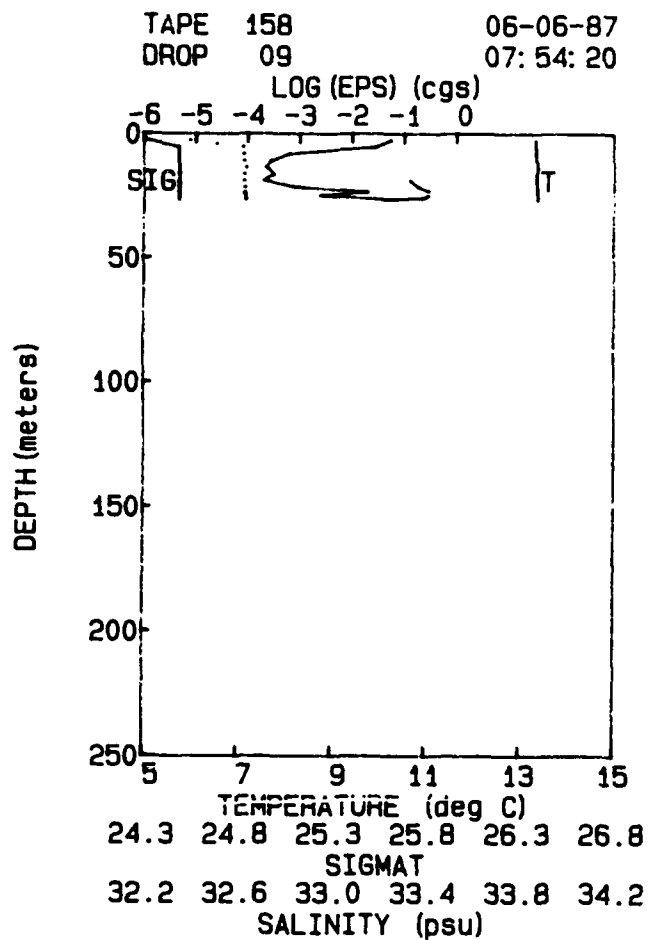


TAPE 158 06-06-87
DROP 07 07: 38: 47

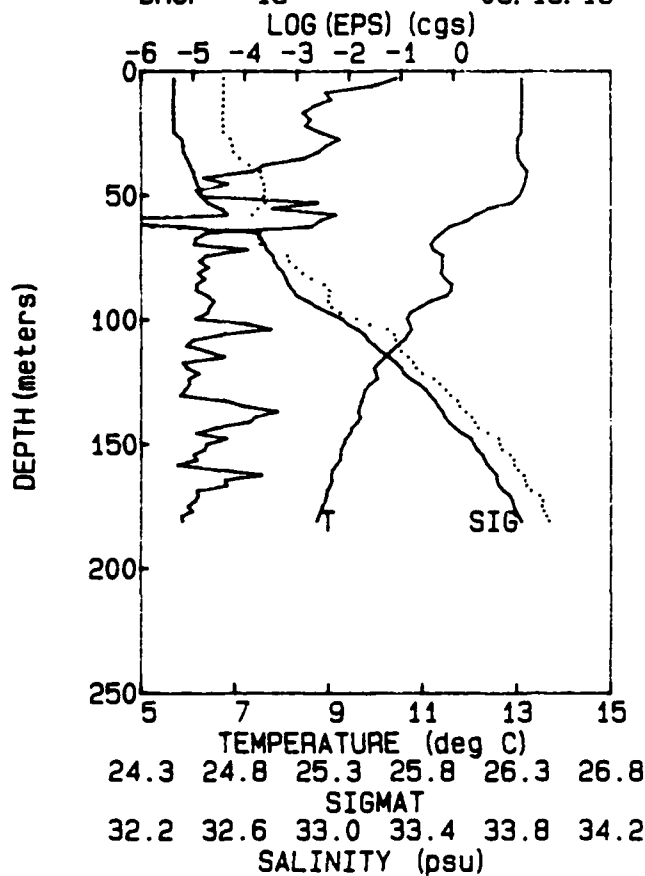


TAPE 158 06-06-87
DROP 08 07: 46: 28

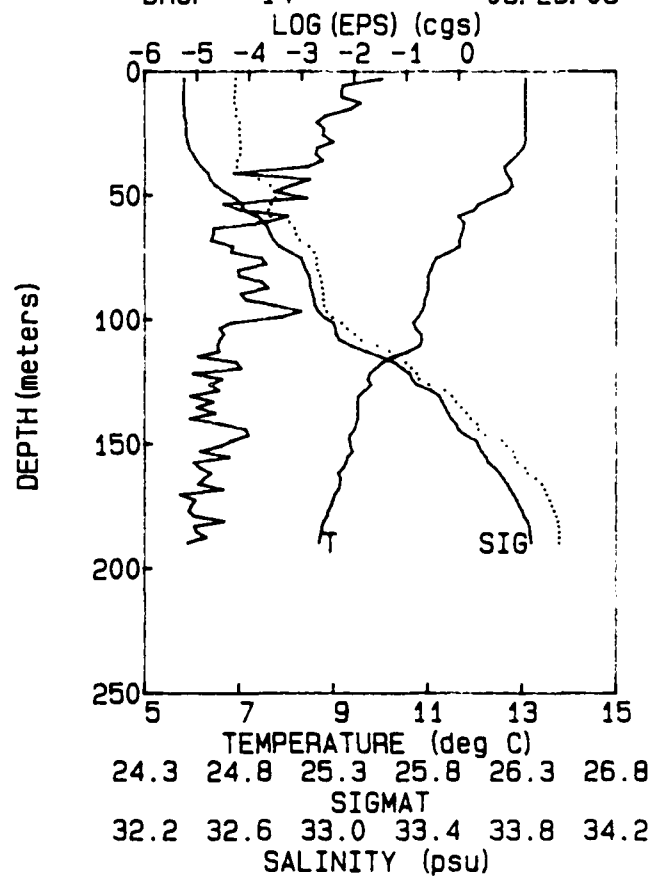




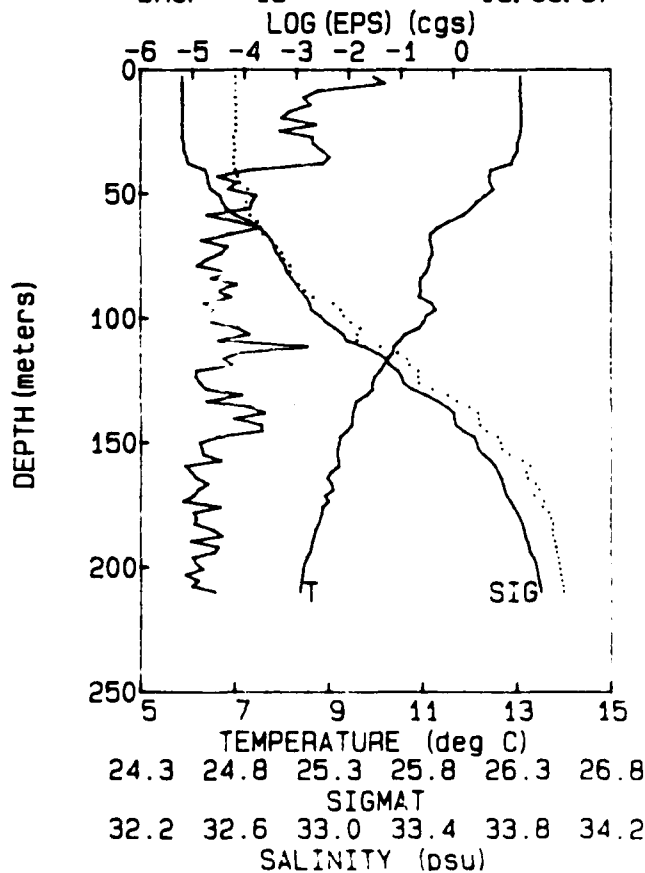
TAPE 158 06-06-87
DROP 13 08:18:16



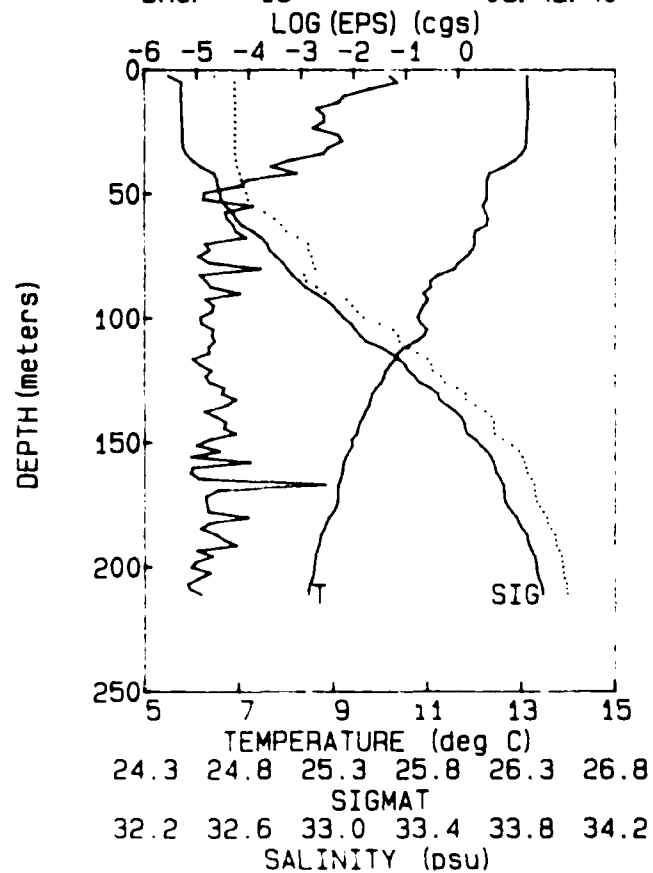
TAPE 158 06-06-87
DROP 14 08:26:08



TAPE 158 06-06-87
DROP 15 08:33:57



TAPE 158 06-06-87
DROP 16 08:42:40

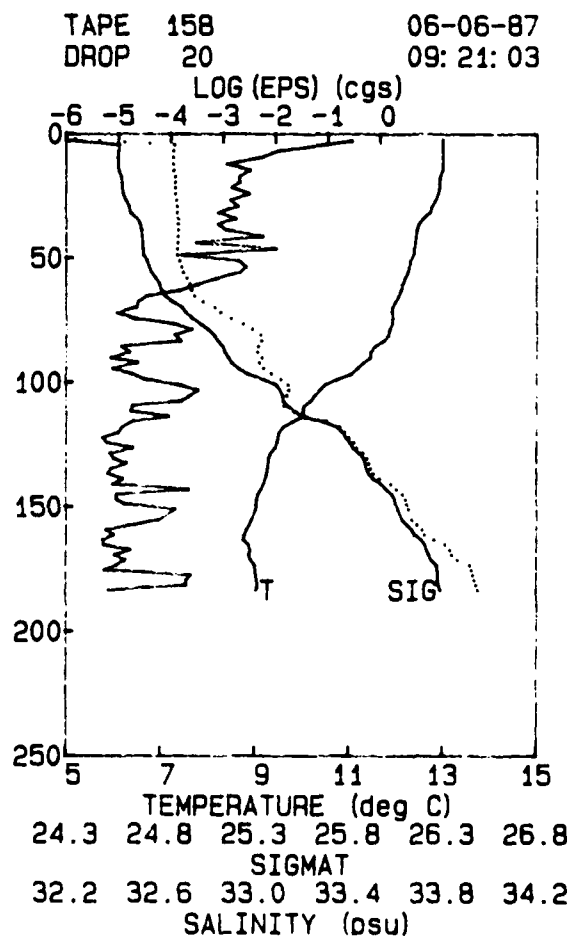
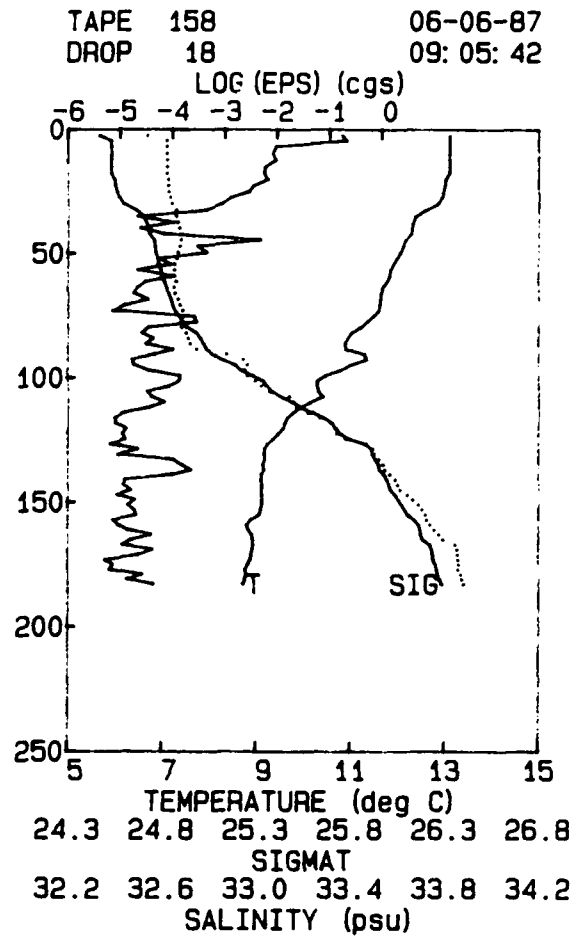
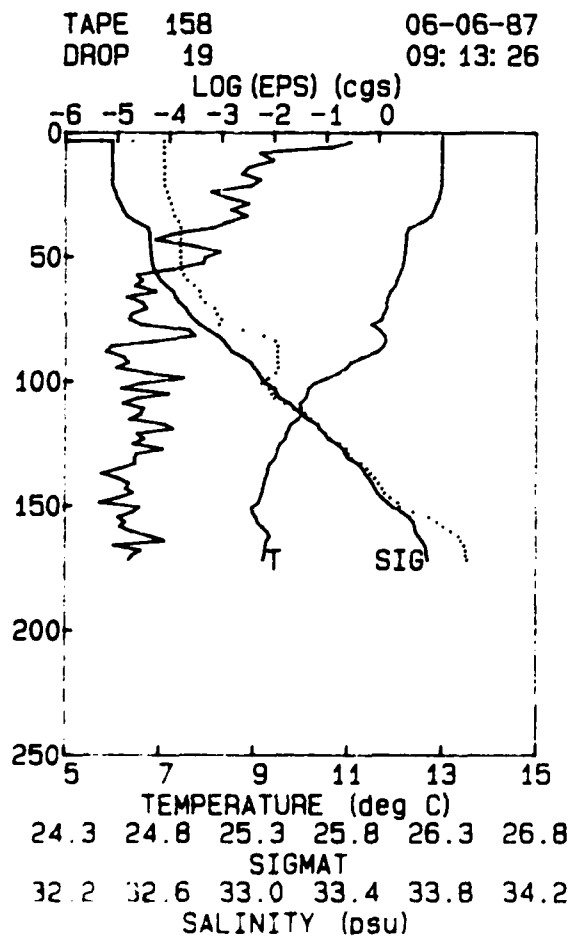


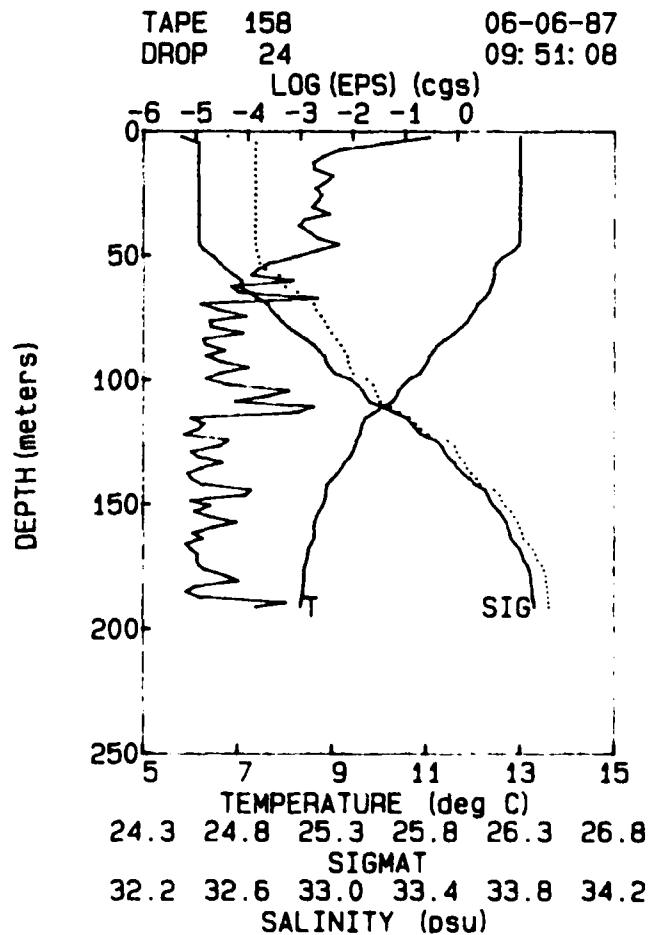
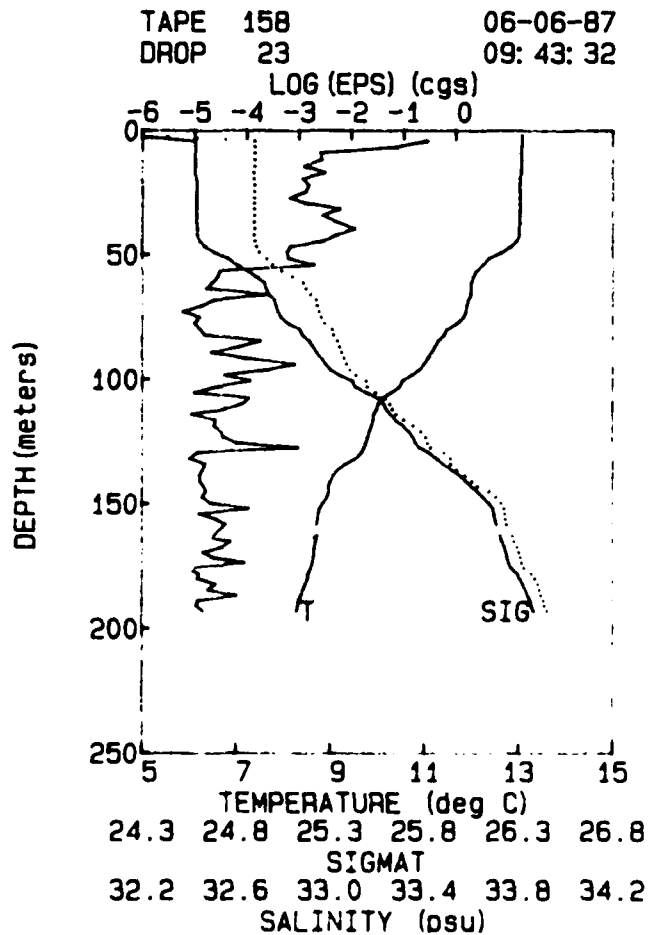
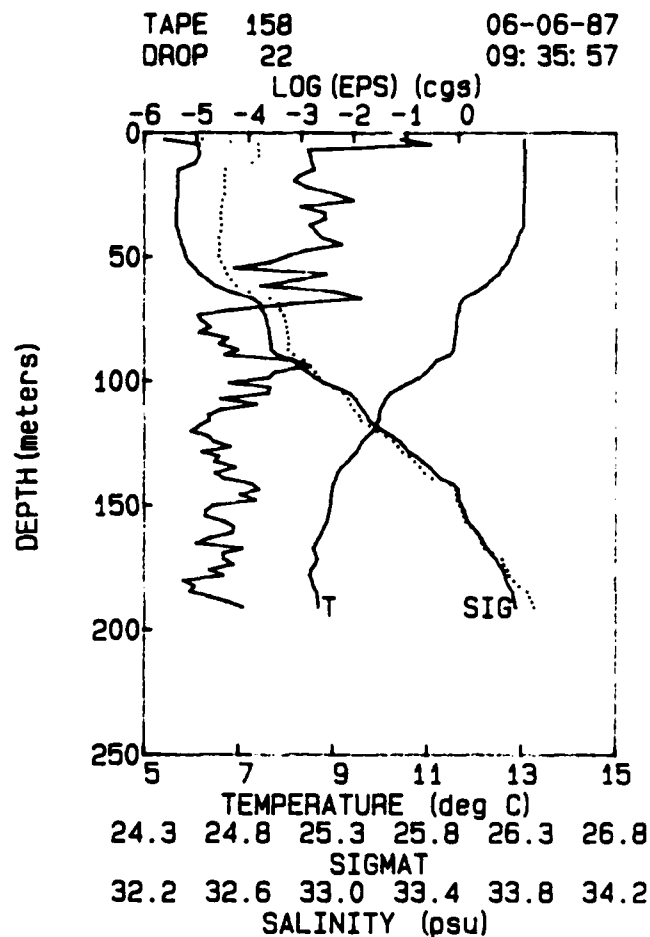
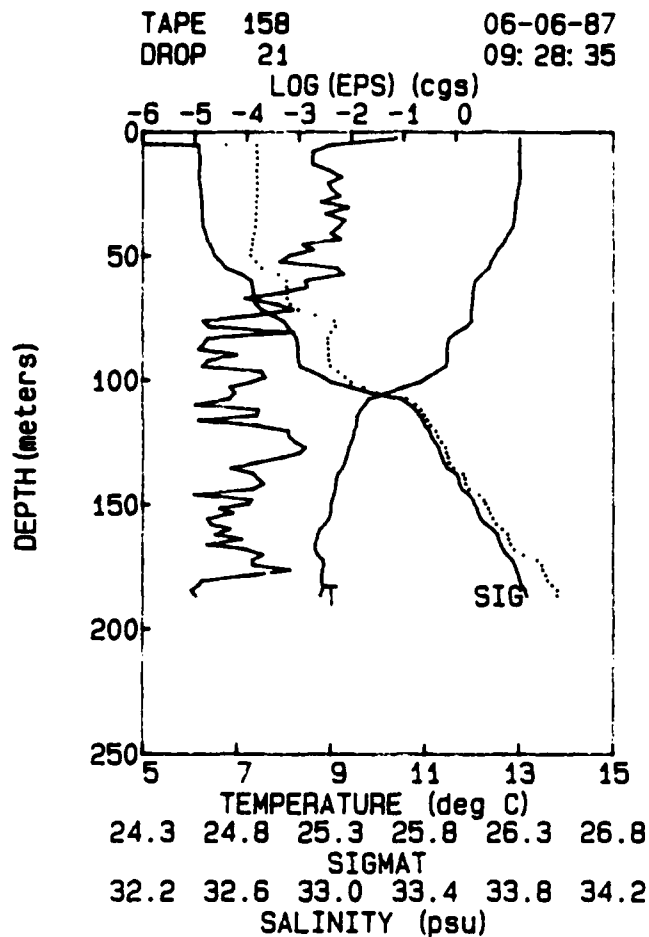
DEPTH (meters)

DEPTH (meters)

DEPTH (meters)

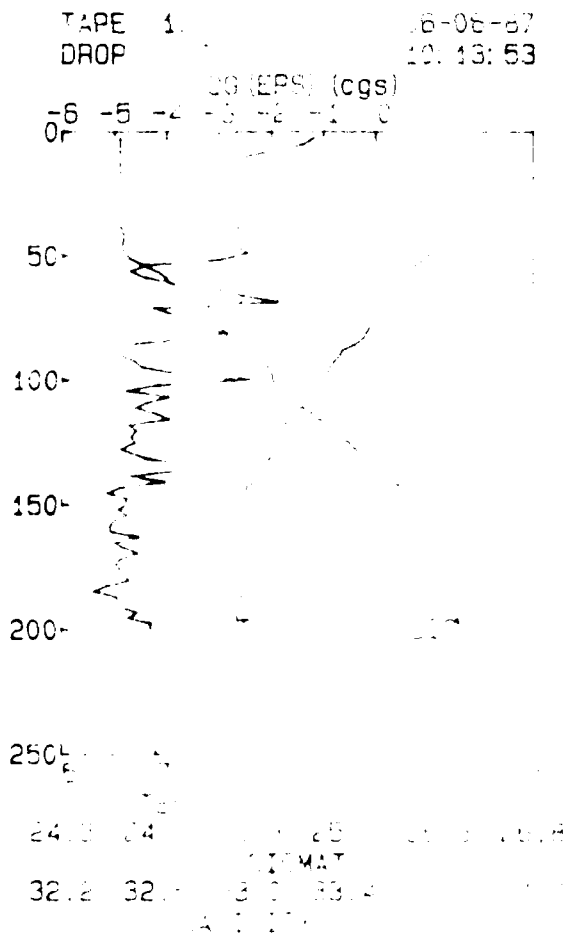
DEPTH (meters)





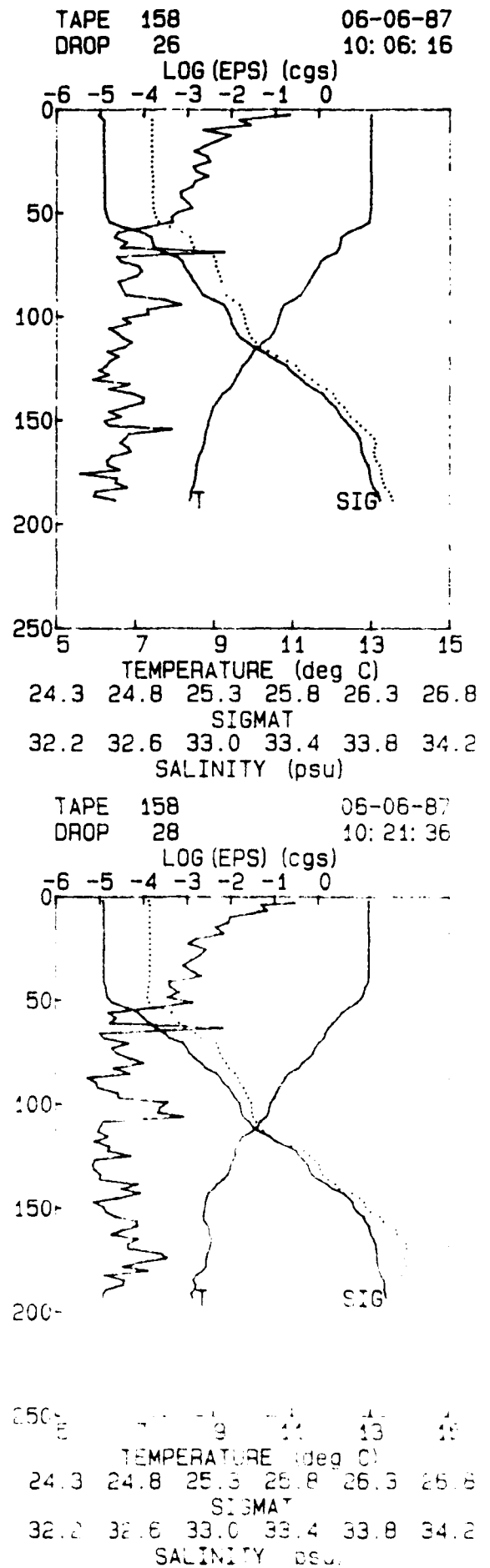
DEPTH (meters)

DEPTH (meters)

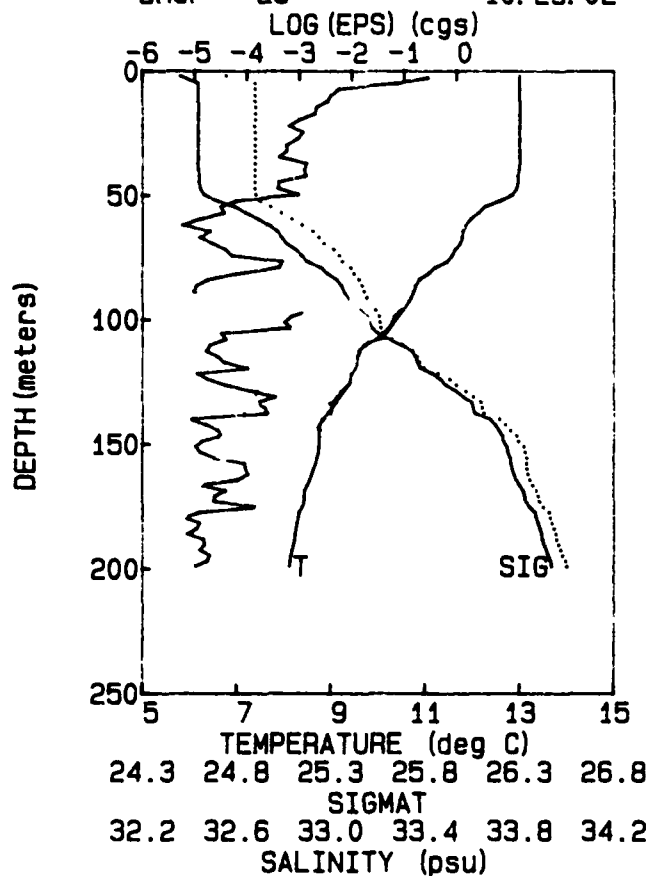


DEPTH (meters)

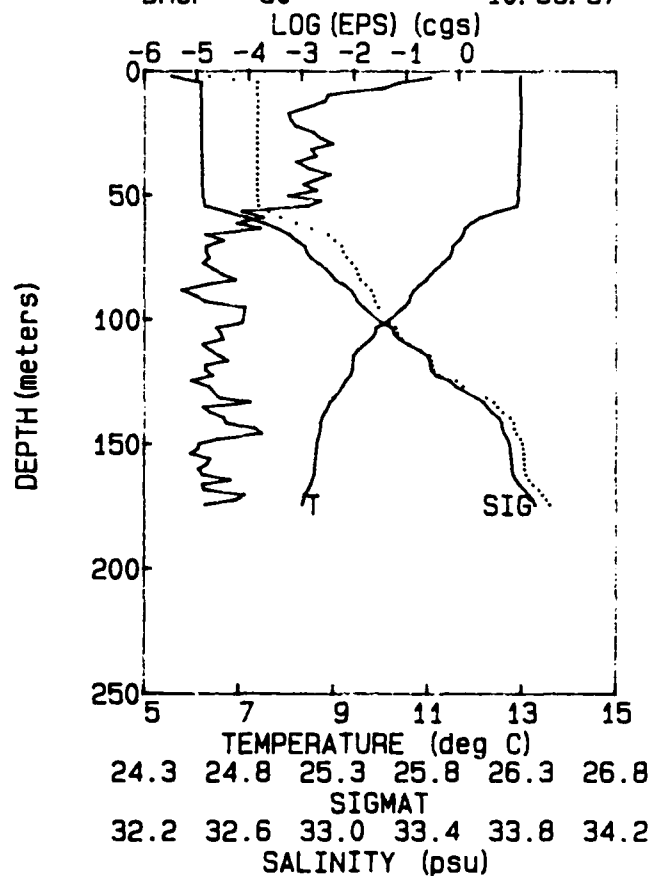
DEPTH (meters)



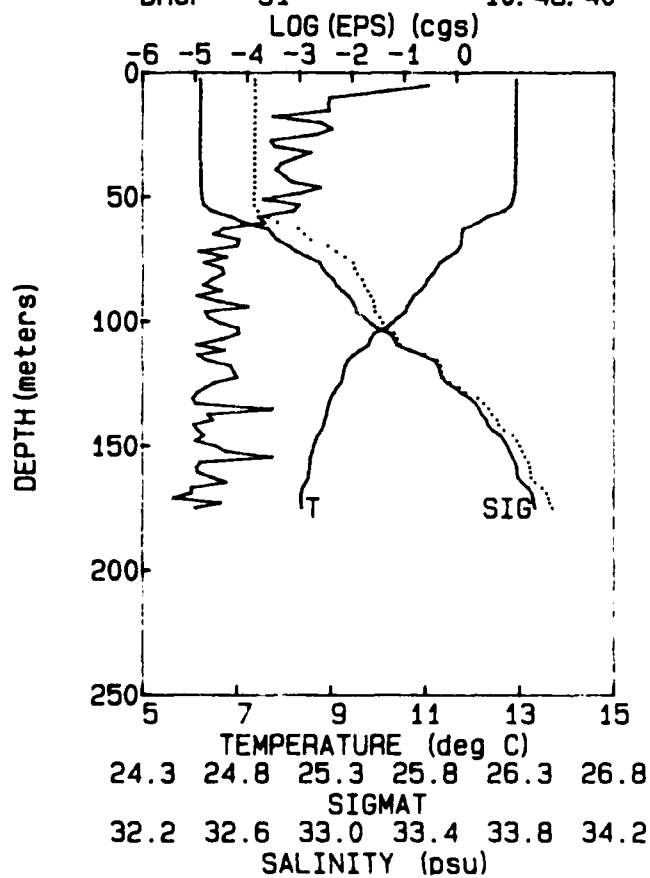
TAPE 158 06-06-87
DROP 29 10: 29: 02



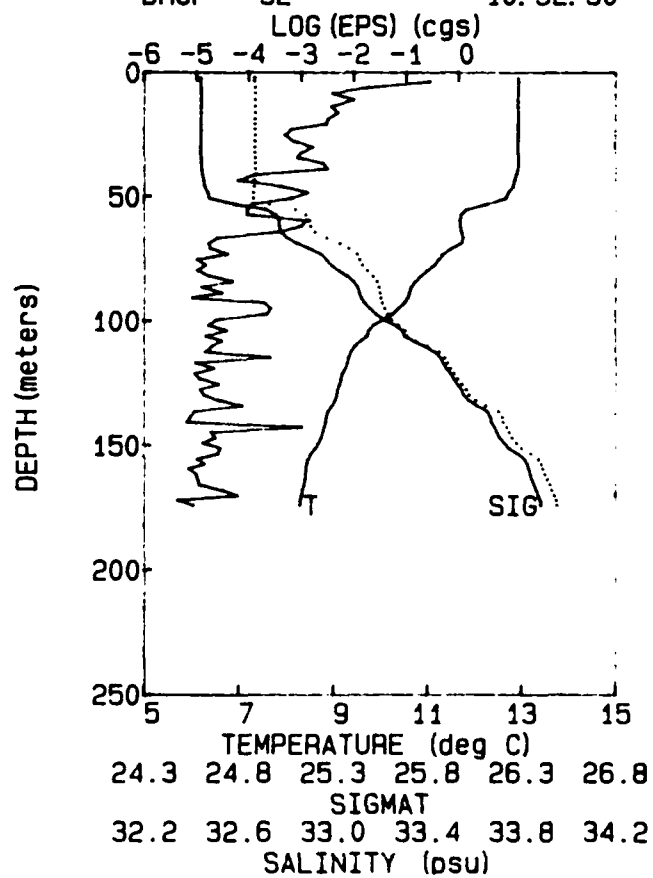
TAPE 158 06-06-87
DROP 30 10: 36: 37

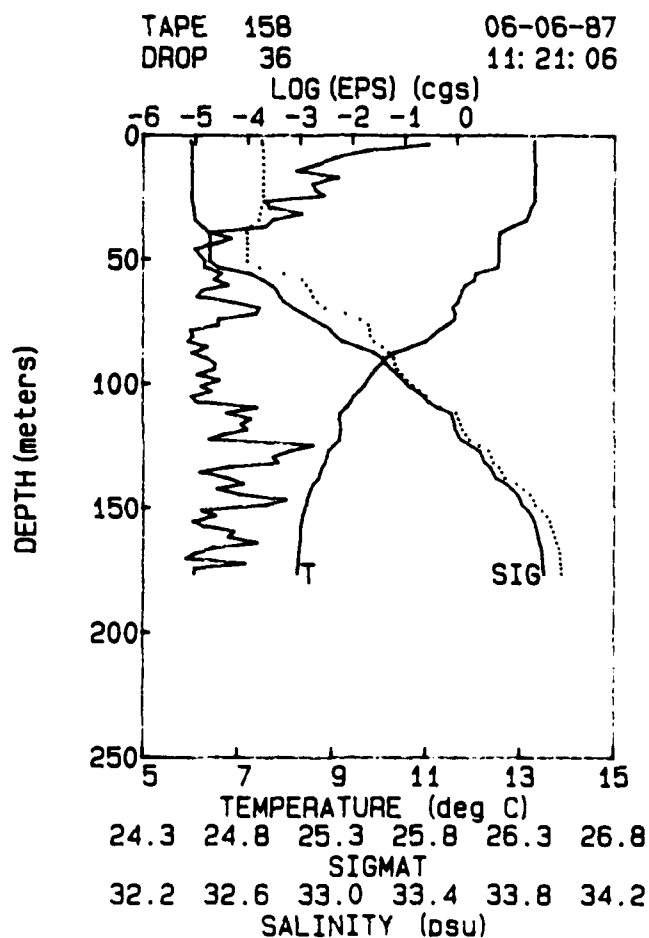
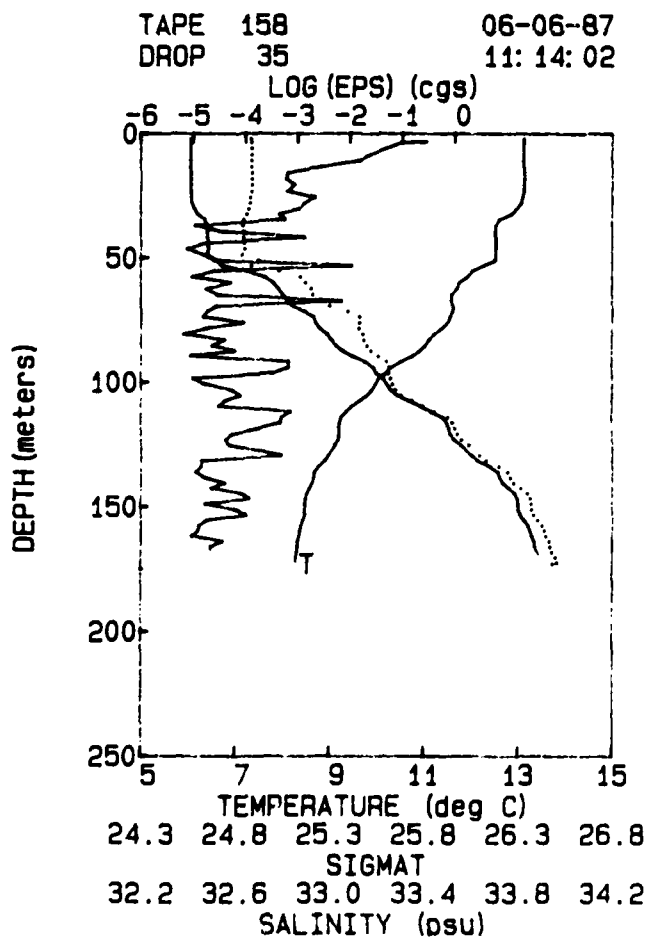
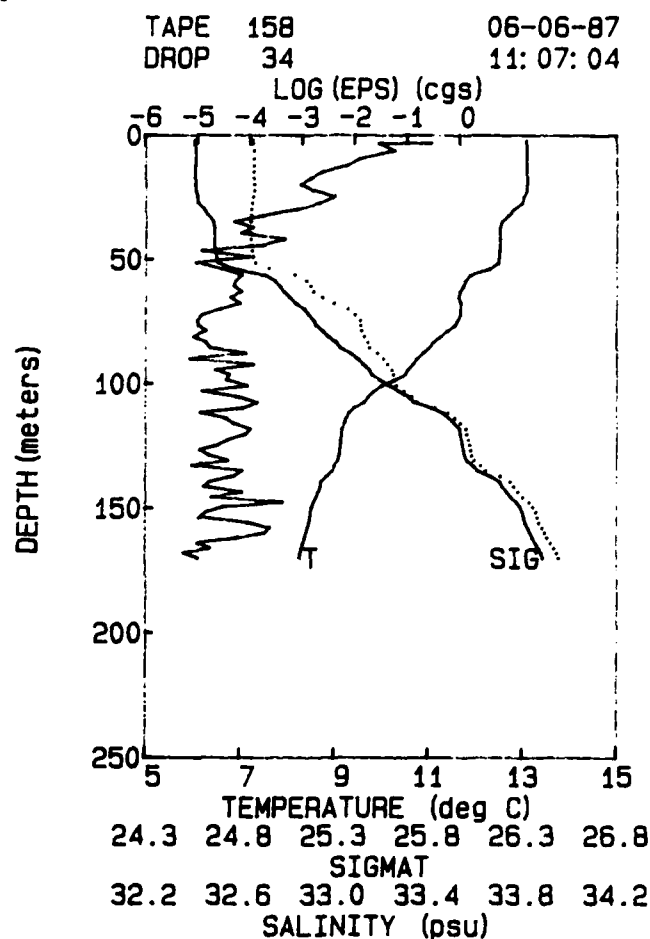
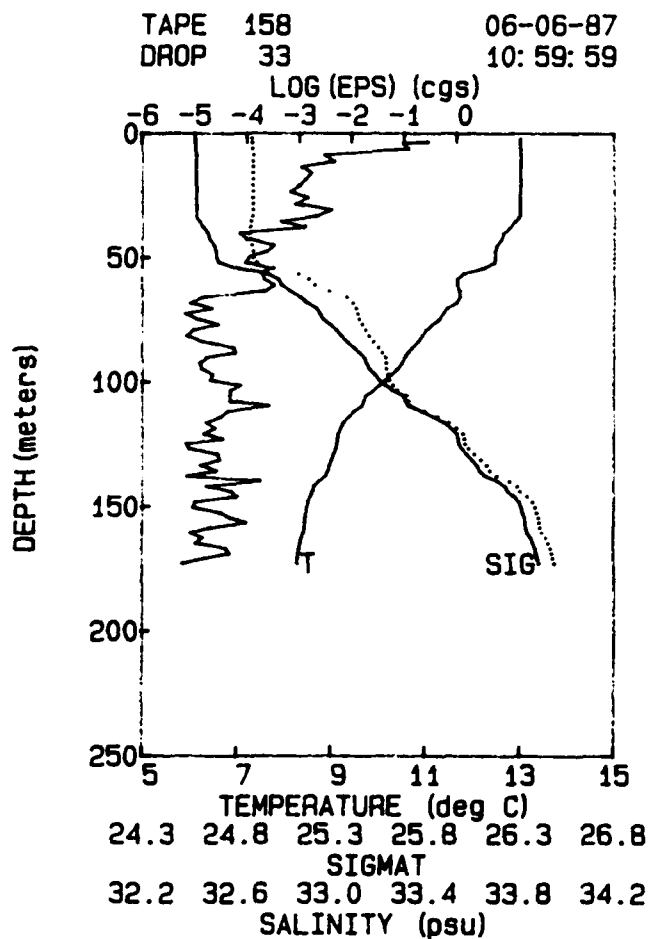


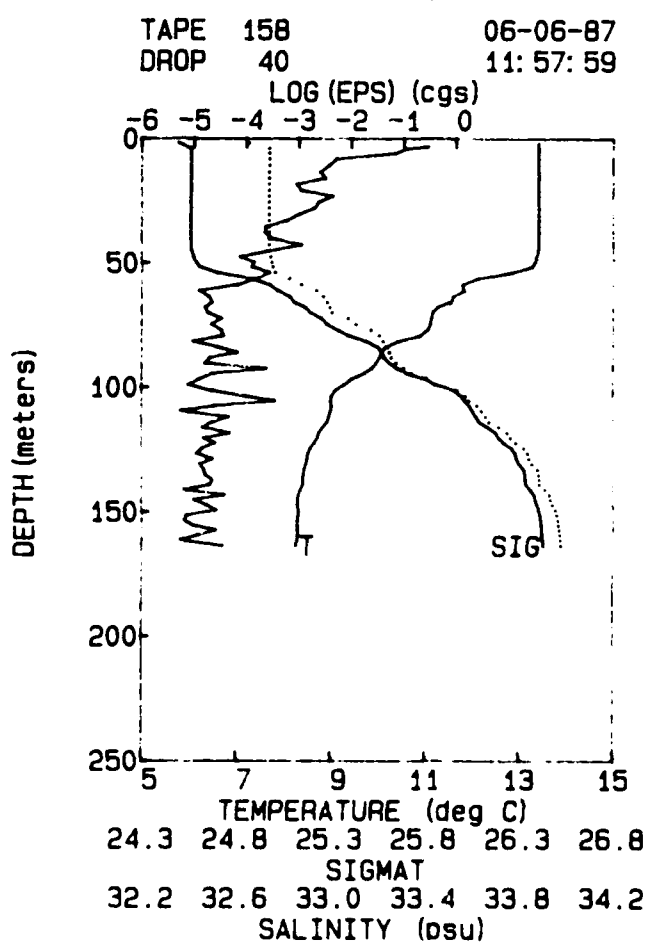
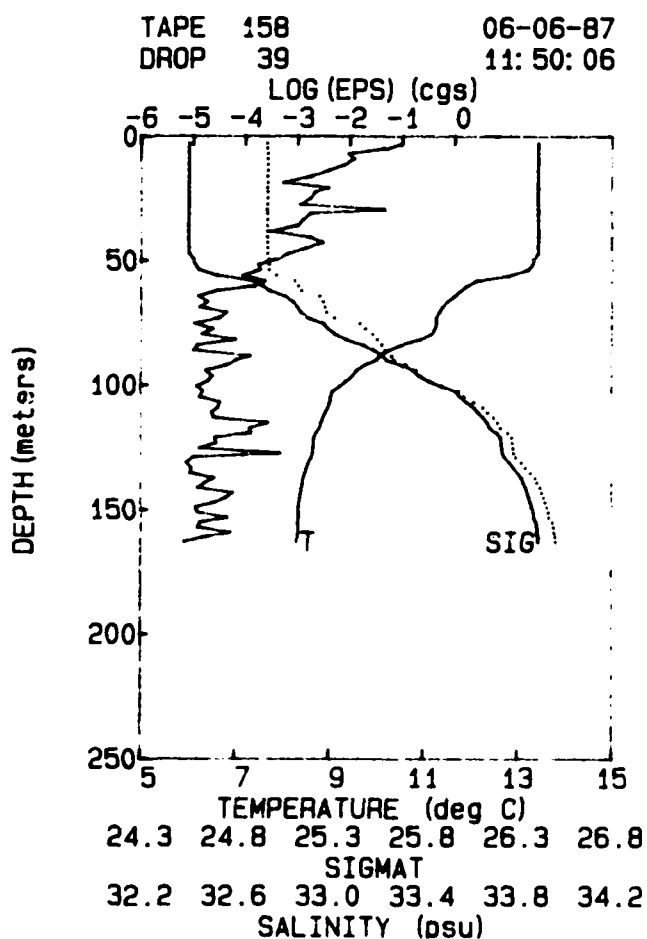
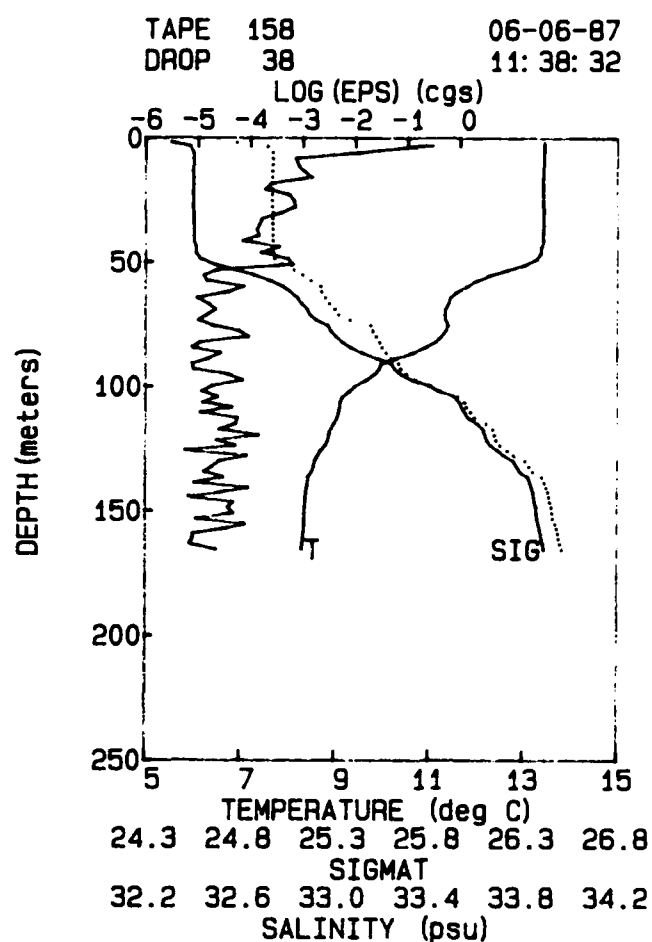
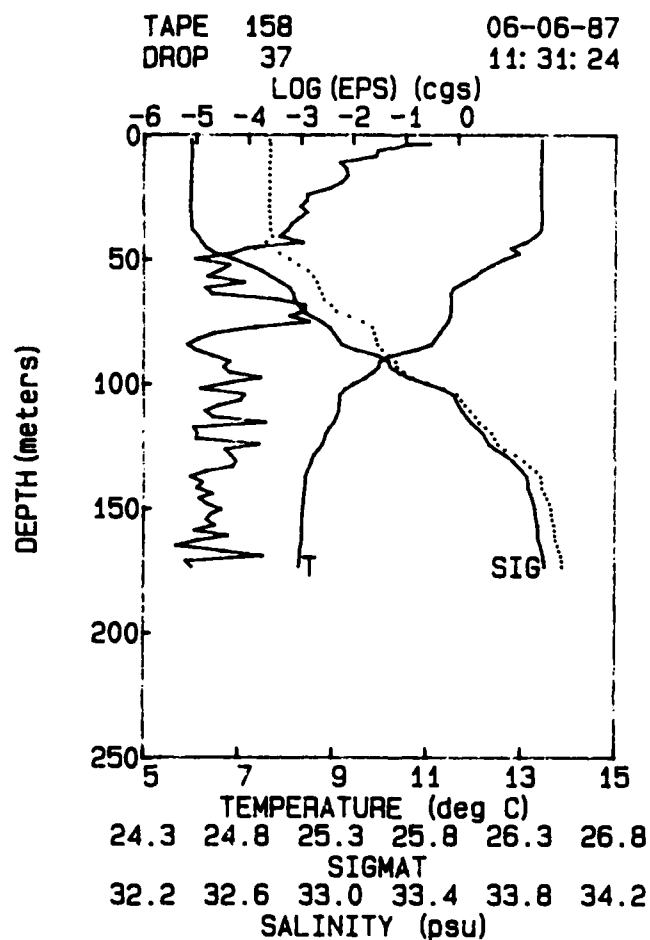
TAPE 158 06-06-87
DROP 31 10: 45: 40

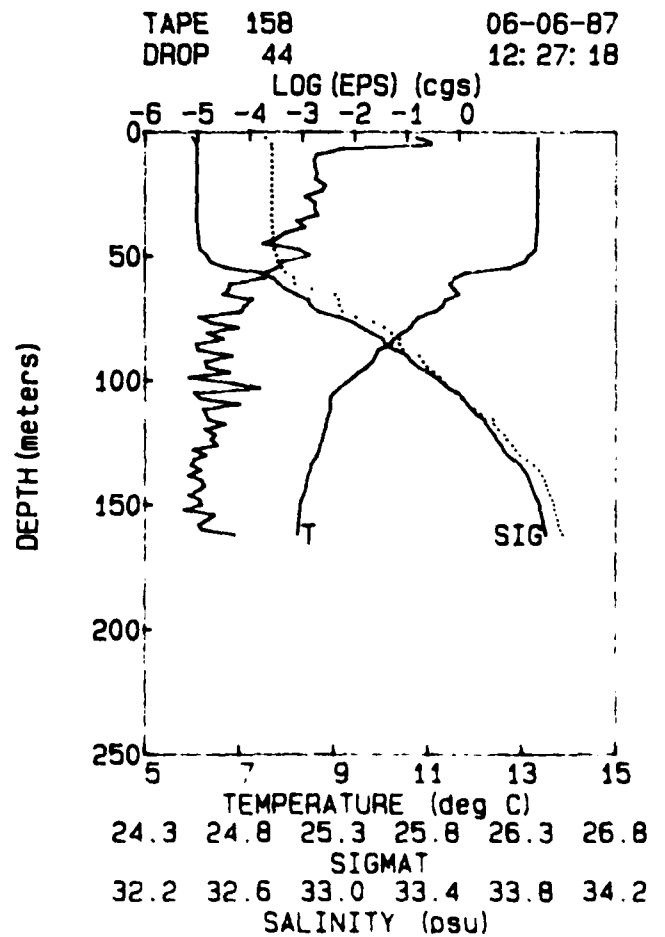
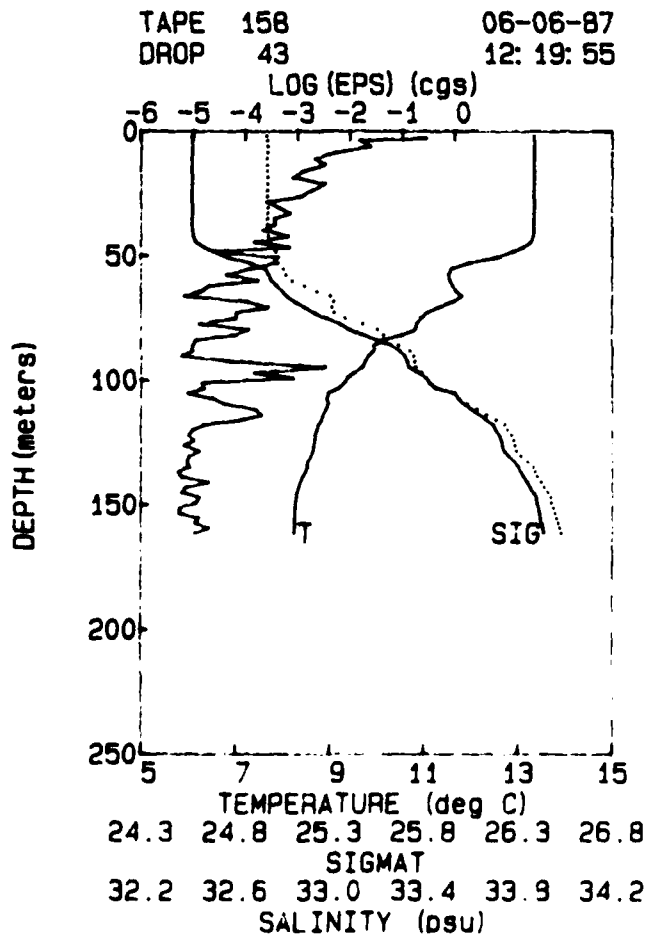
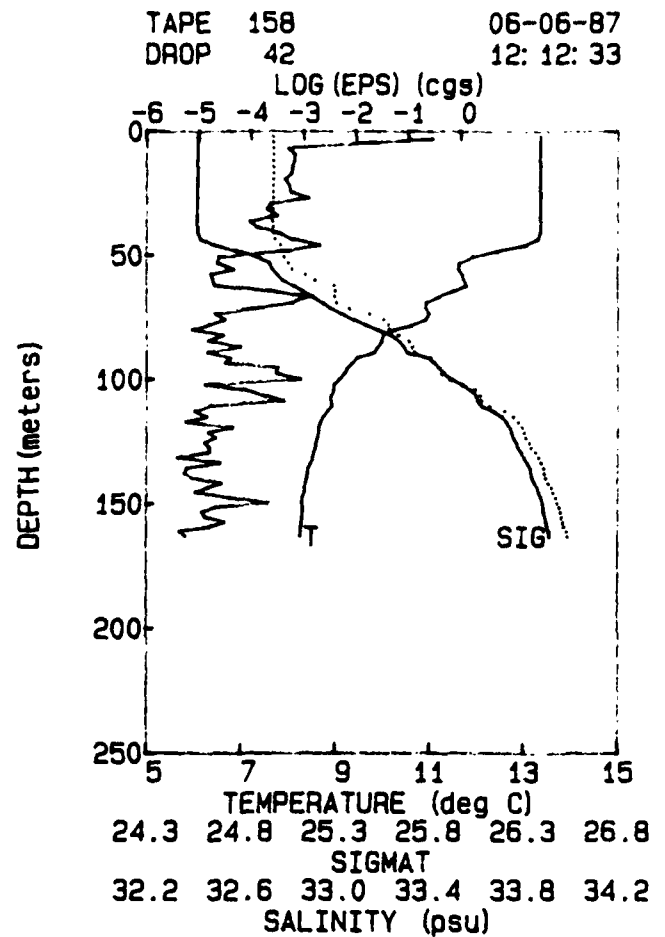
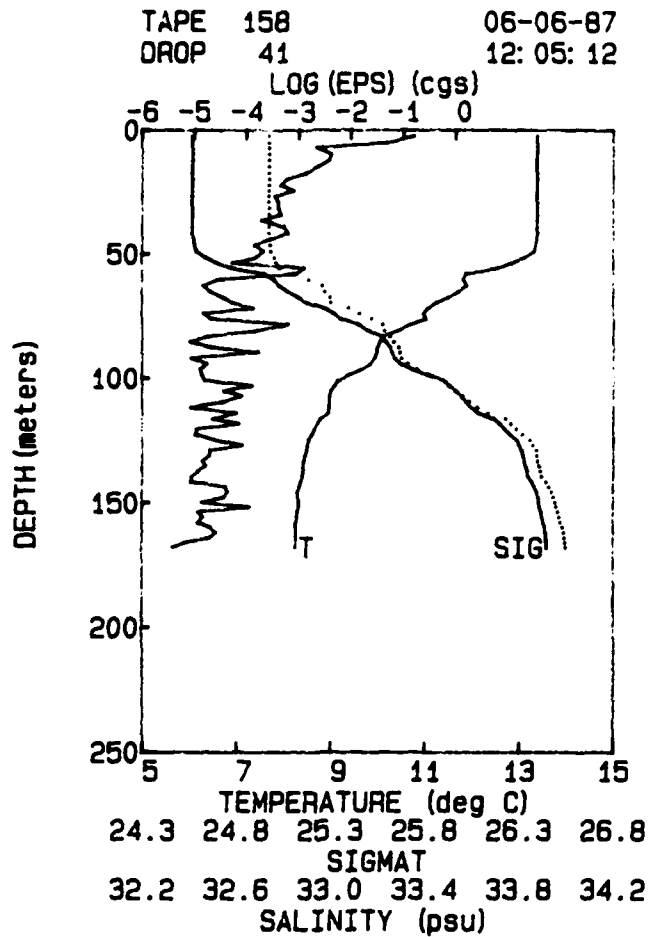


TAPE 158 06-06-87
DROP 32 10: 52: 50

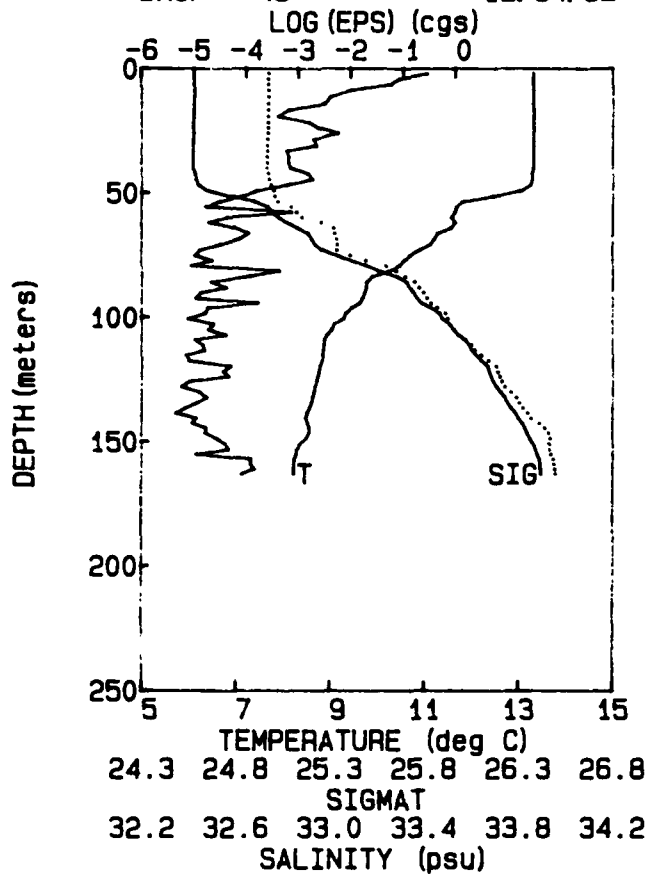




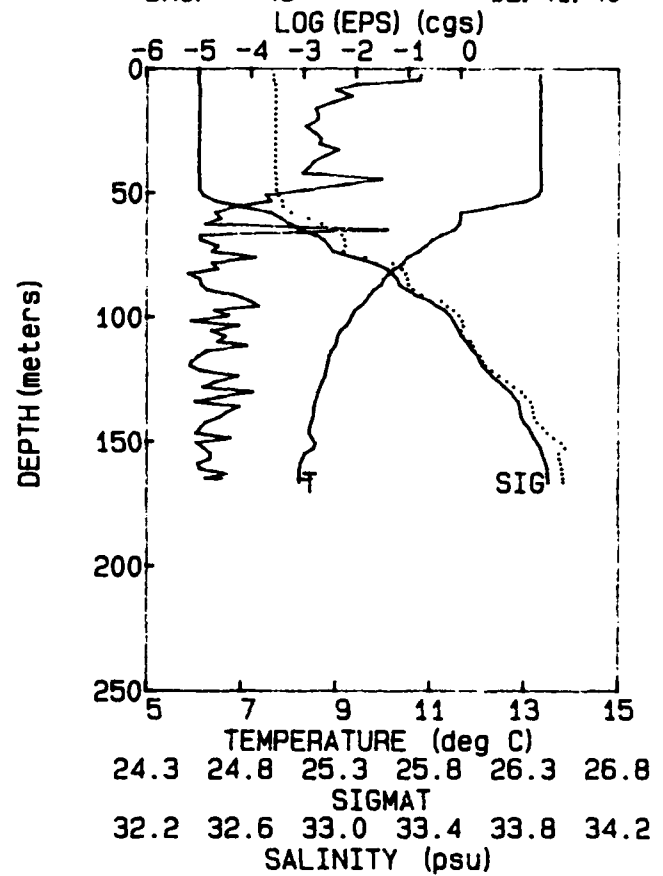




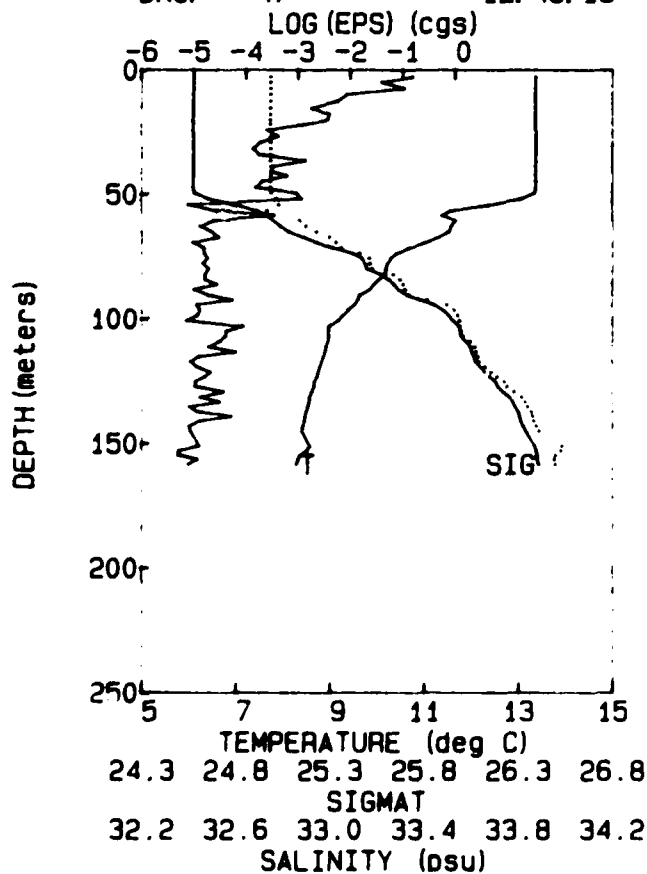
TAPE 158 06-06-87
DROP 45 12: 34: 32



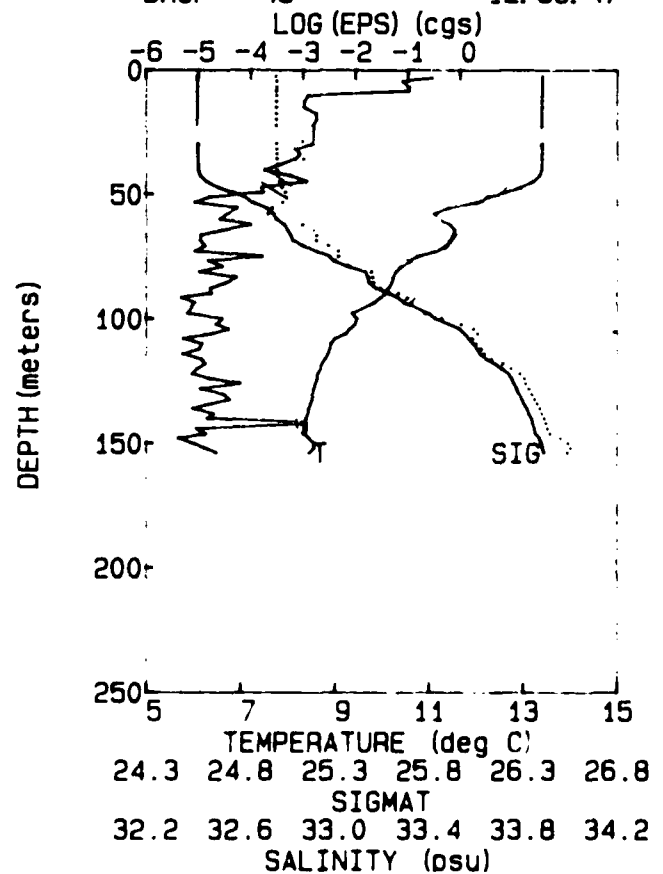
TAPE 158 06-06-87
DROP 46 12: 41: 40

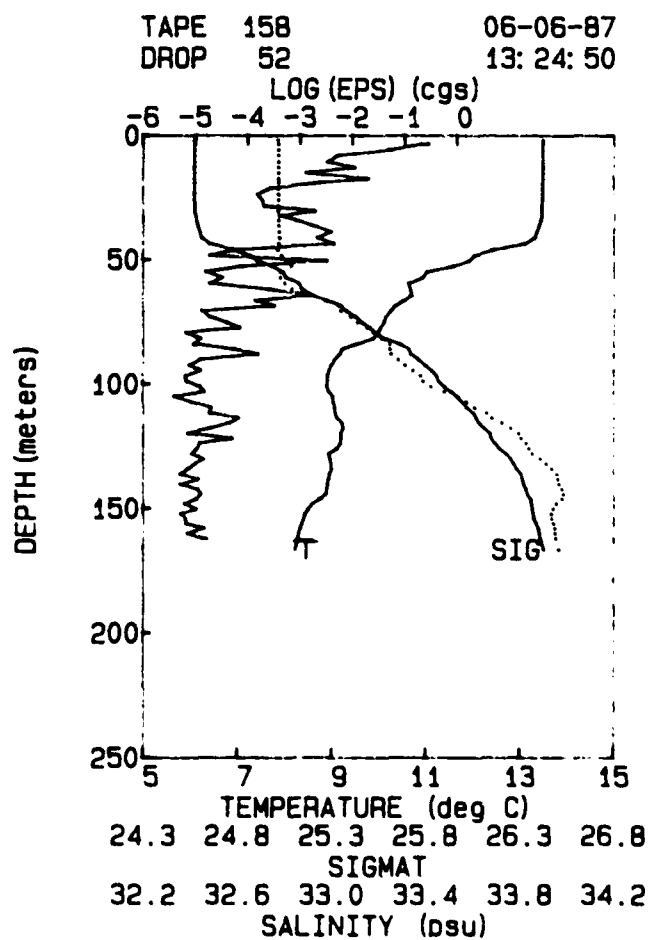
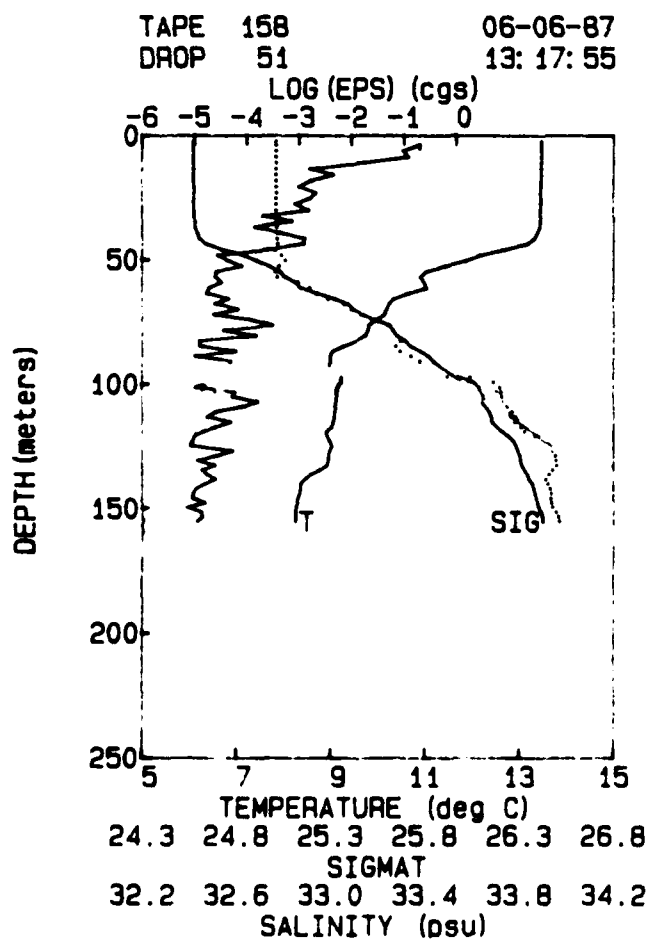
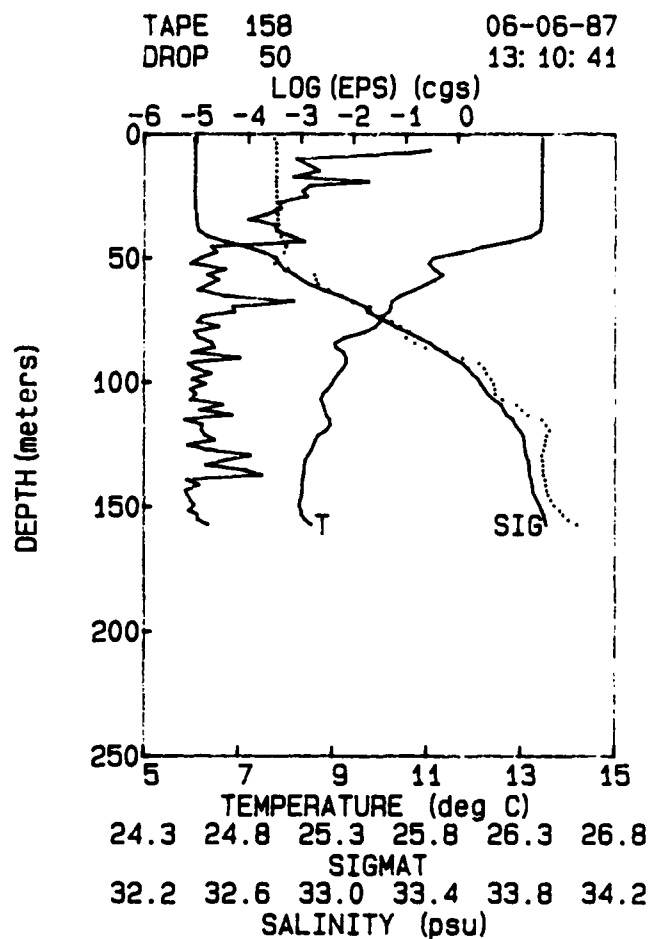
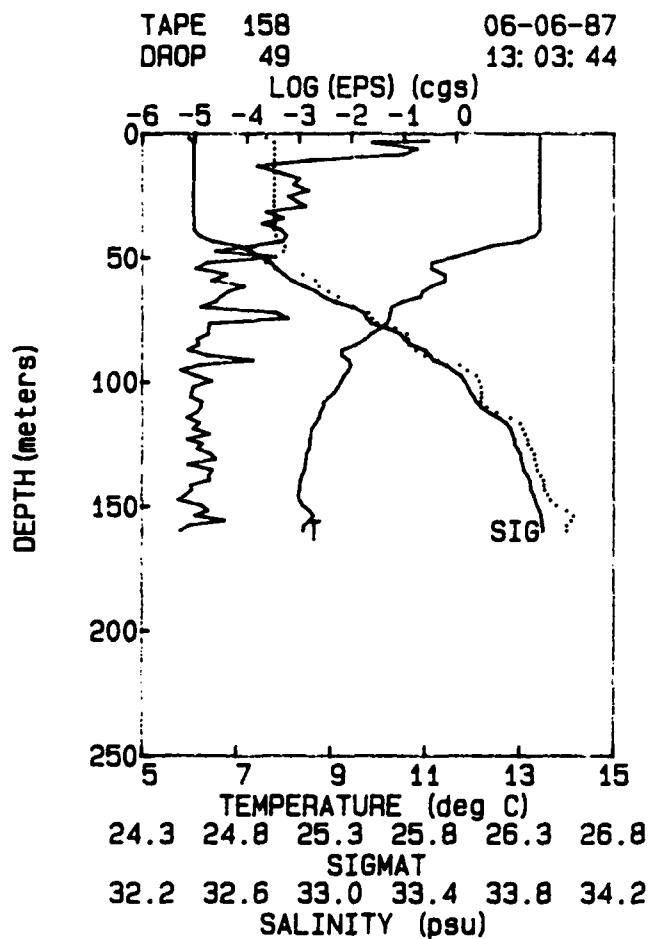


TAPE 158 06-06-87
DROP 47 12: 49: 15

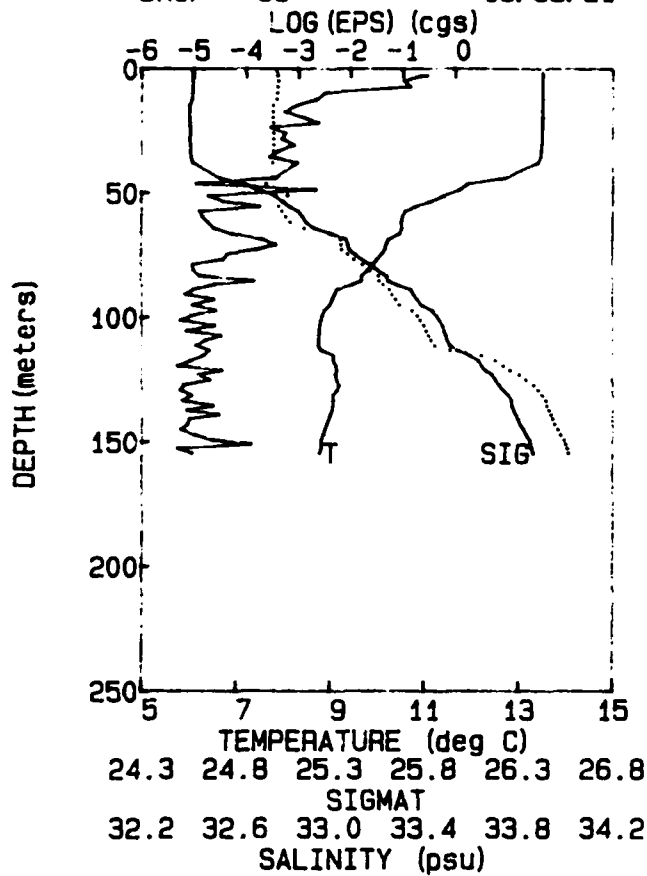


TAPE 158 06-06-87
DROP 48 12: 56: 47

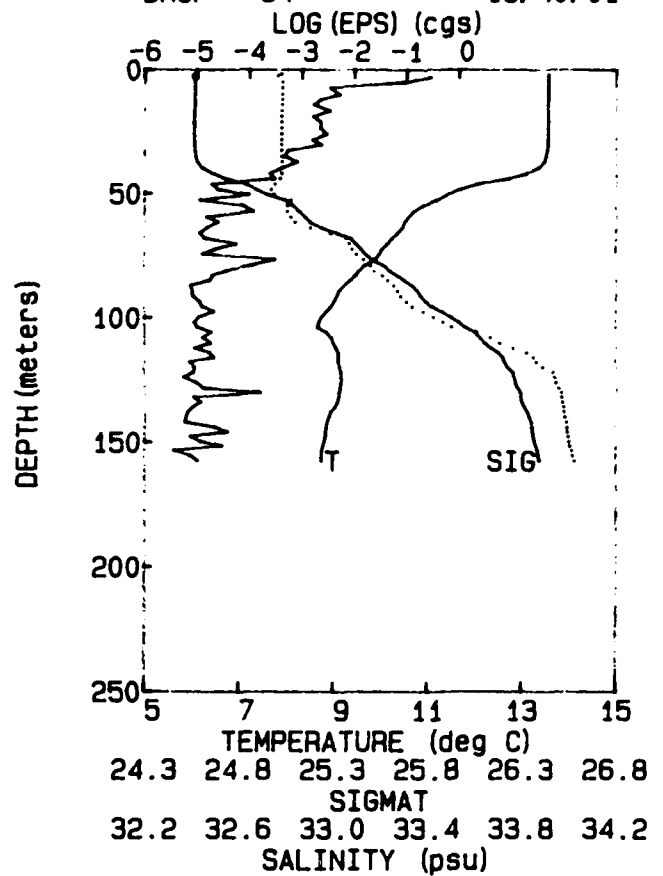




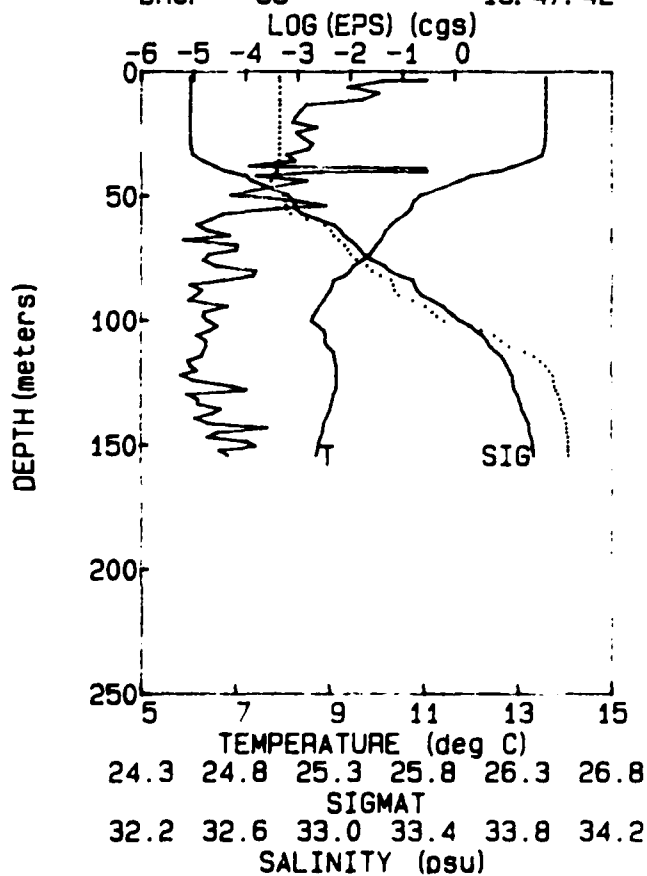
TAPE 158 06-06-87
DROP 53 13:32:21



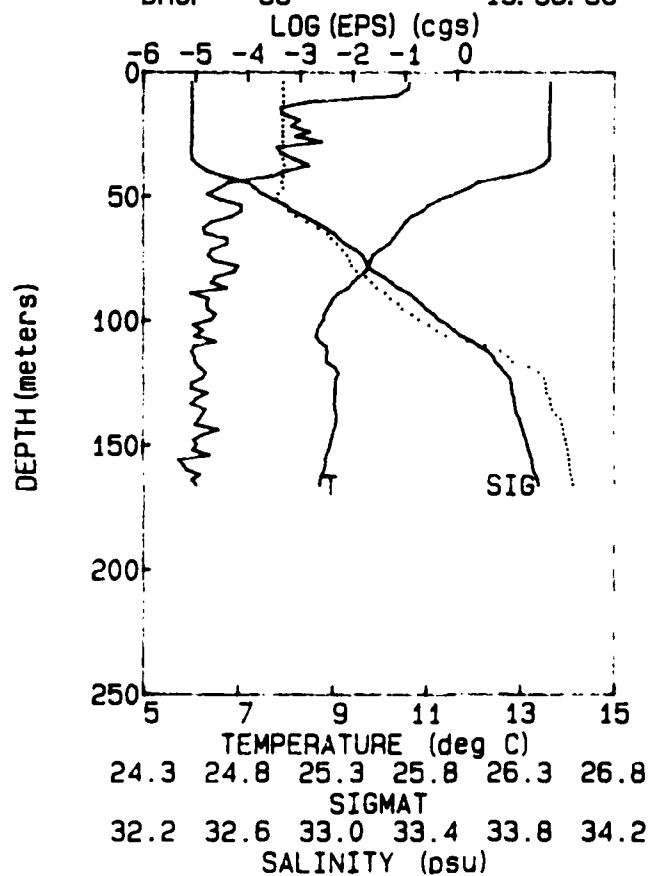
TAPE 158 06-06-87
DROP 54 13:40:01



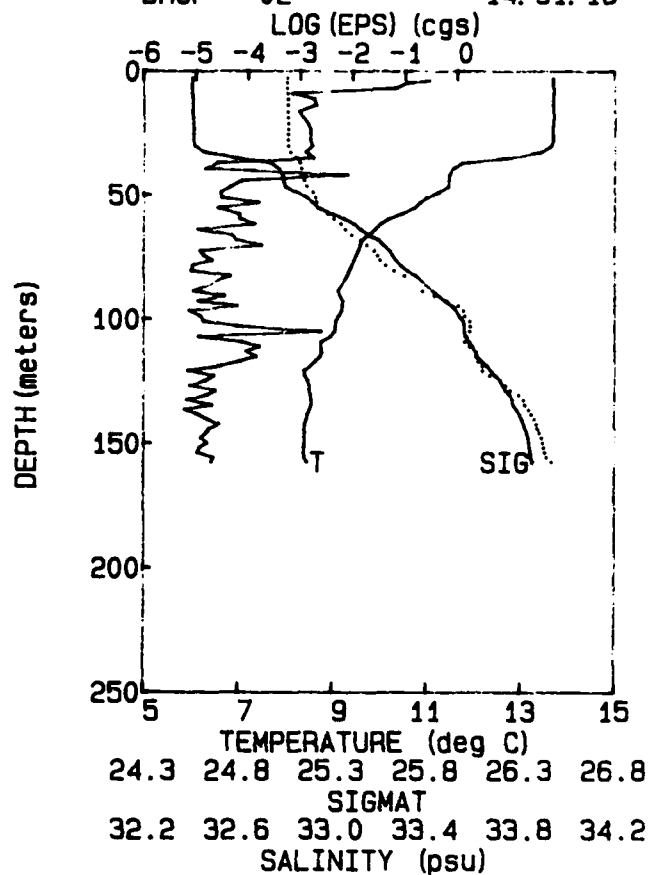
TAPE 158 06-06-87
DROP 55 13:47:42



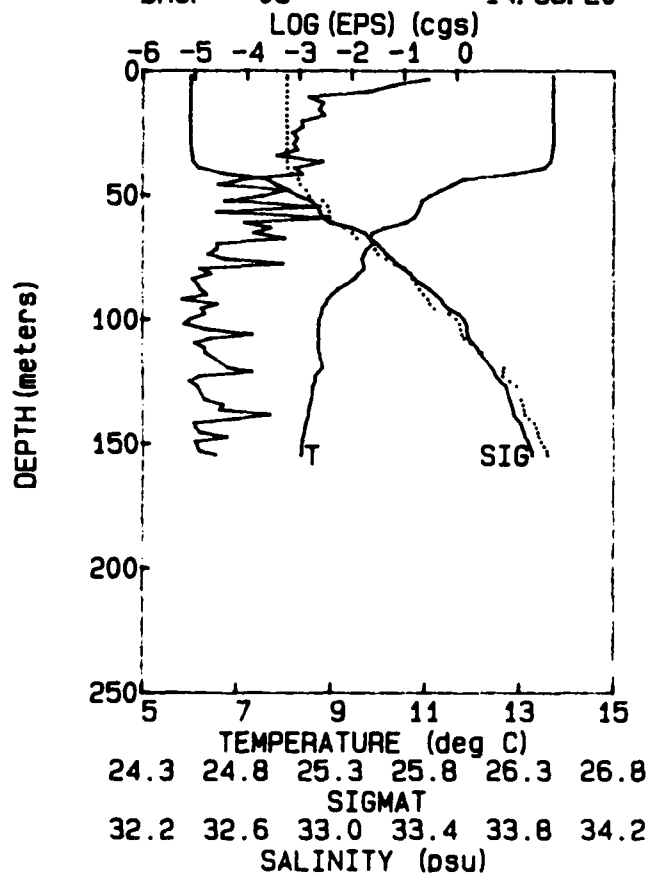
TAPE 158 06-06-87
DROP 56 13:56:36



TAPE 159 06-06-87
 DROP 02 14: 31: 16



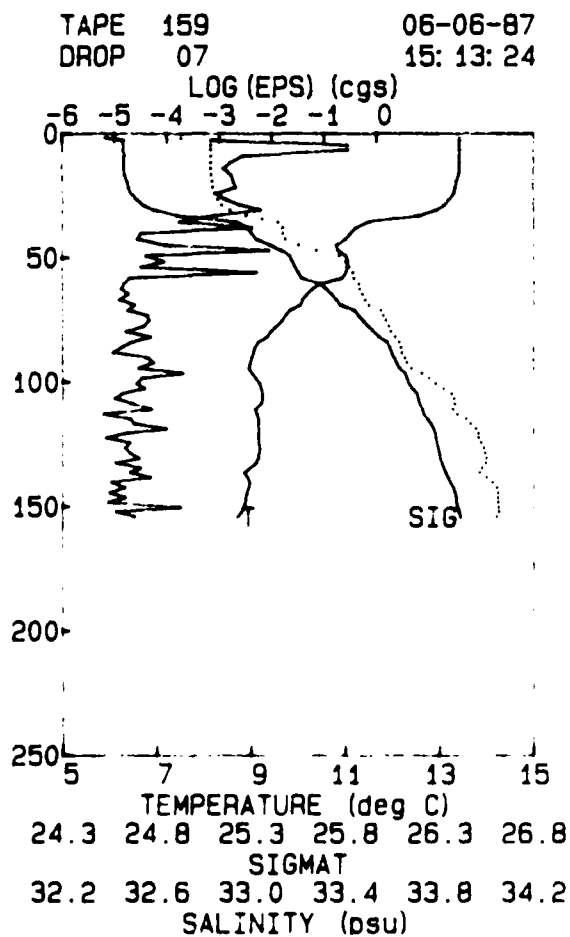
TAPE 159 06-06-87
 DROP 03 14: 38: 20



DEPTH (meters)

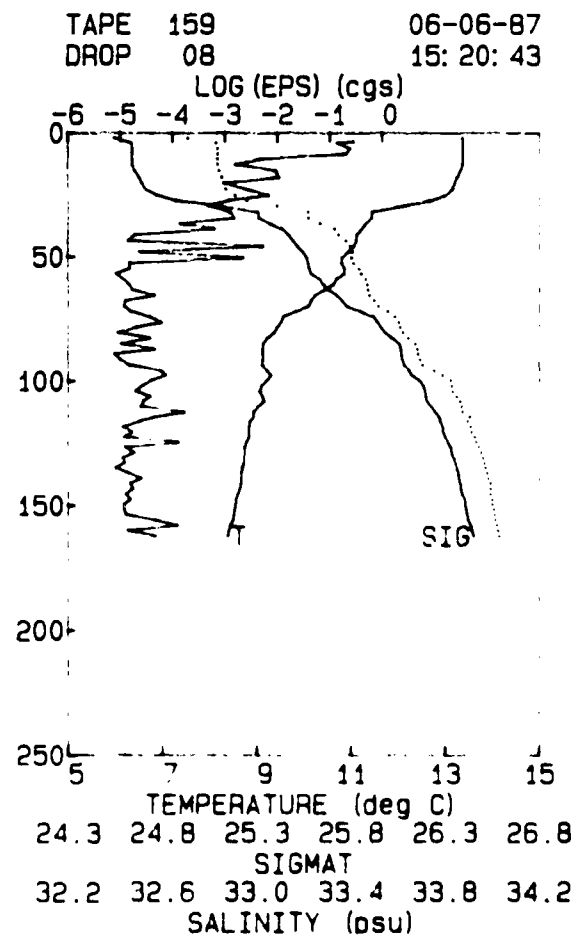
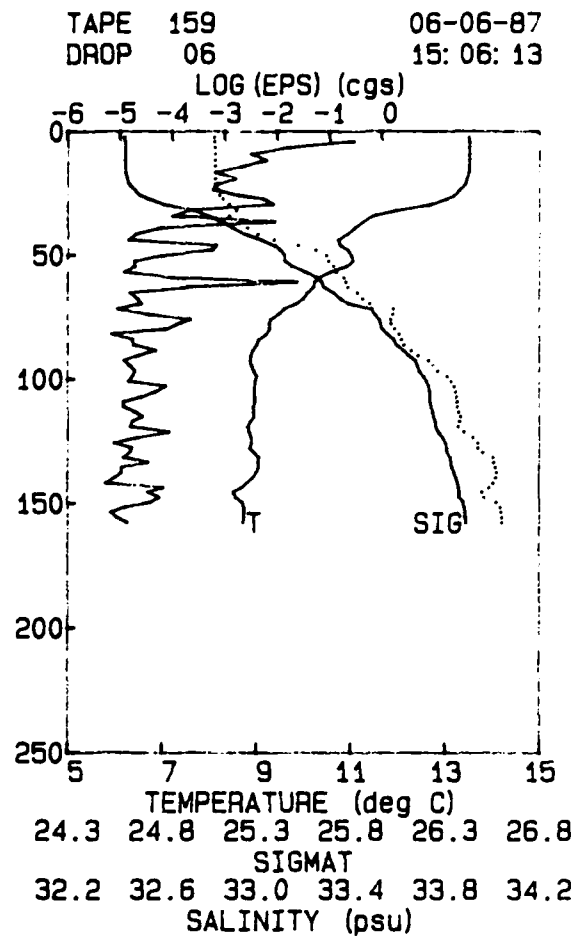
DEPTH (meters)

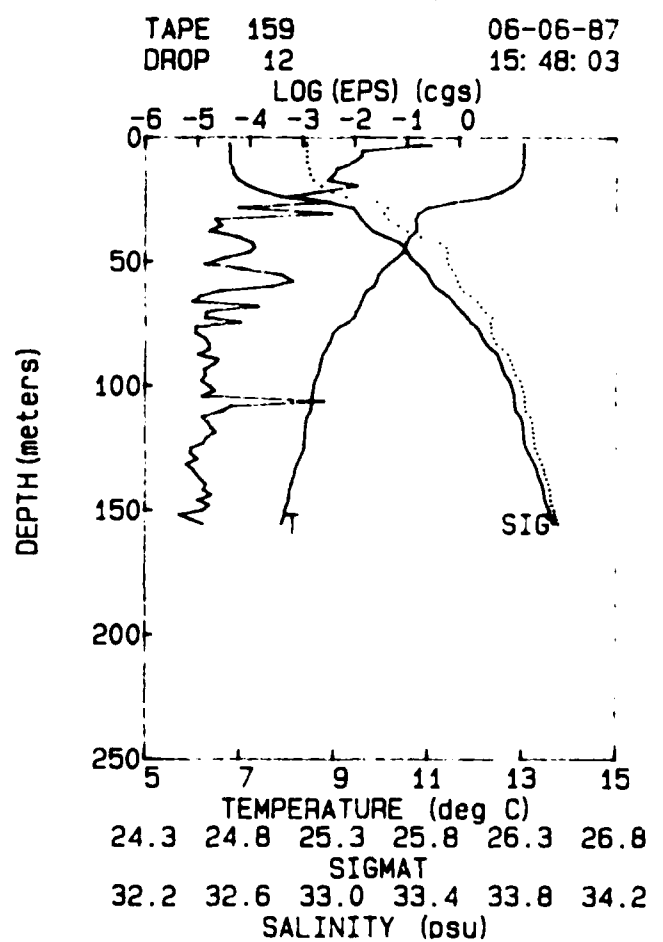
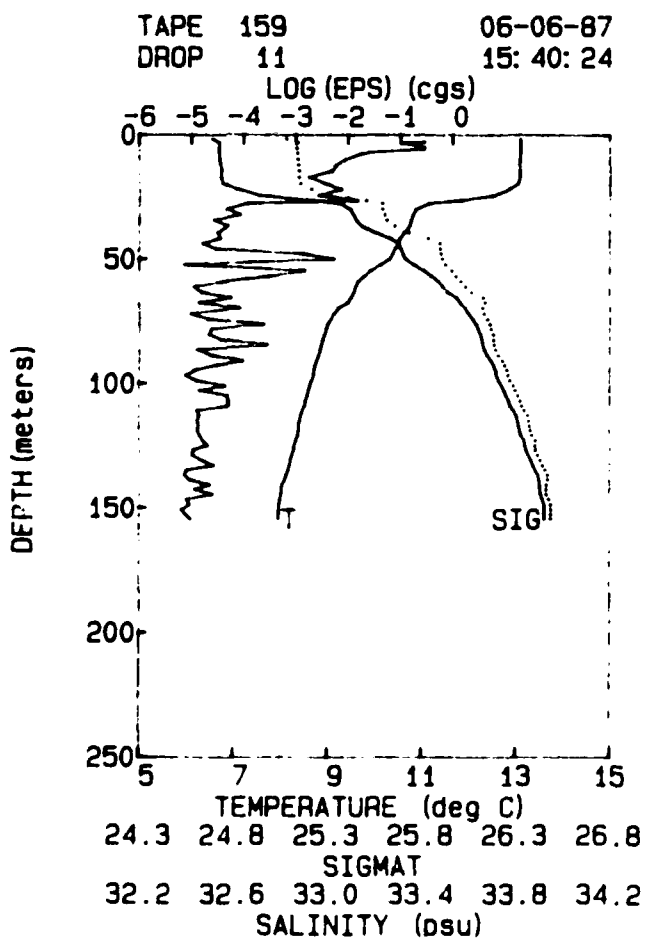
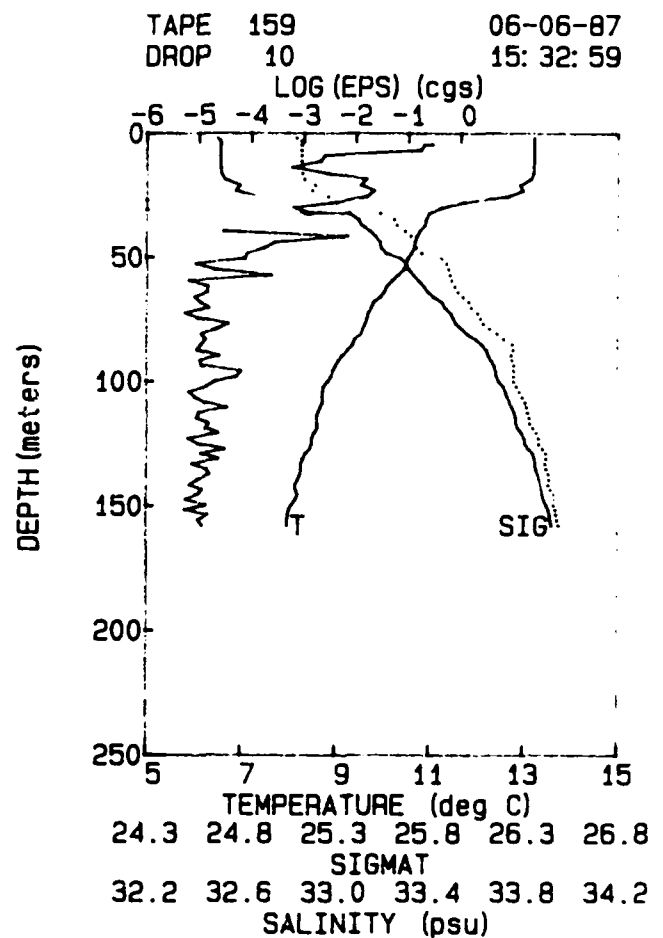
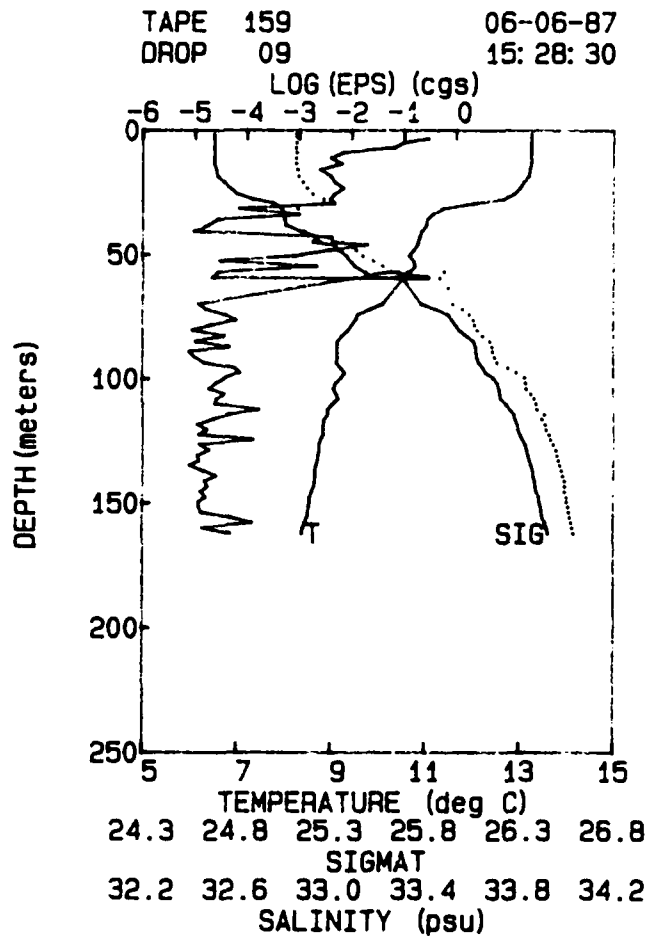
DEPTH (meters)



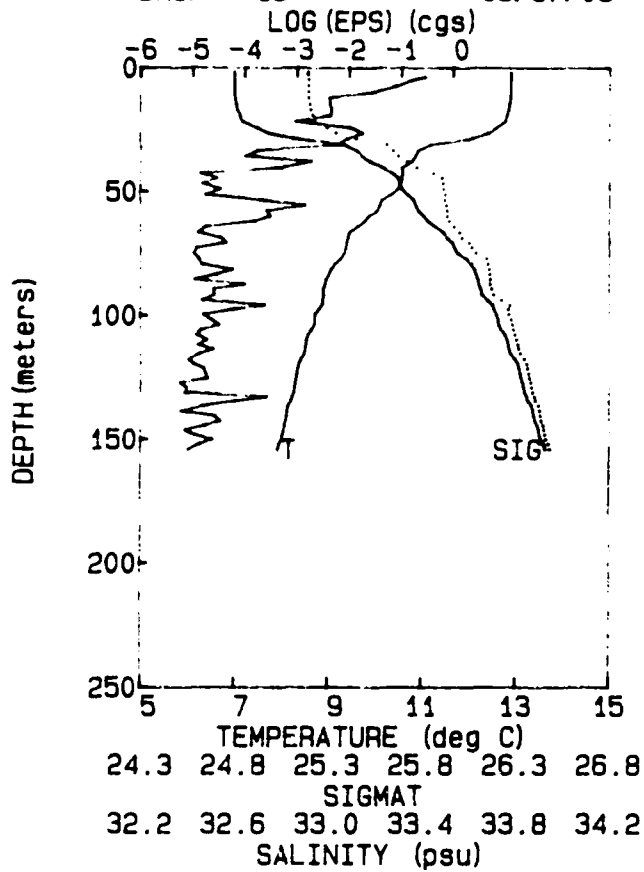
DEPTH (meters)

DEPTH (meters)

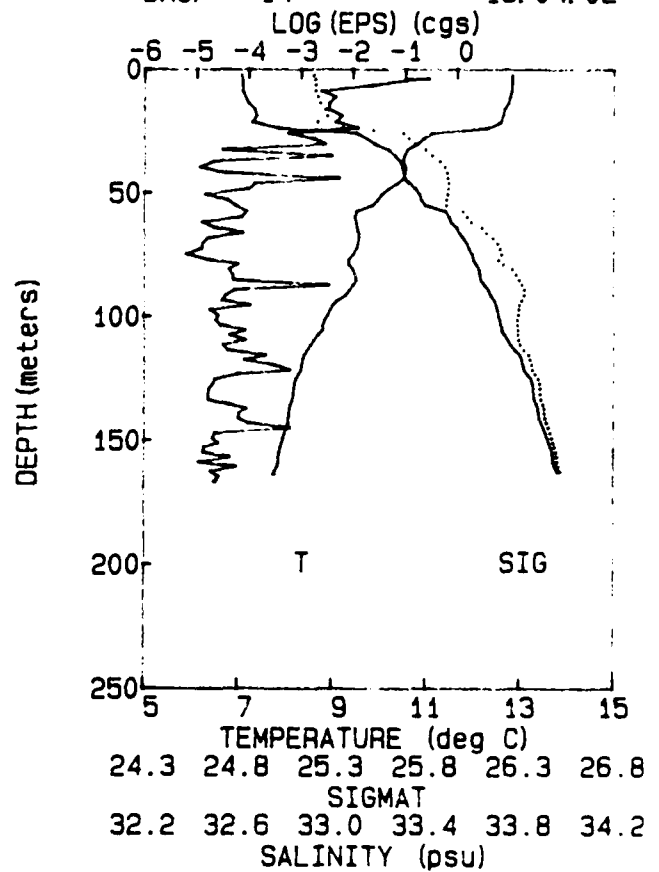




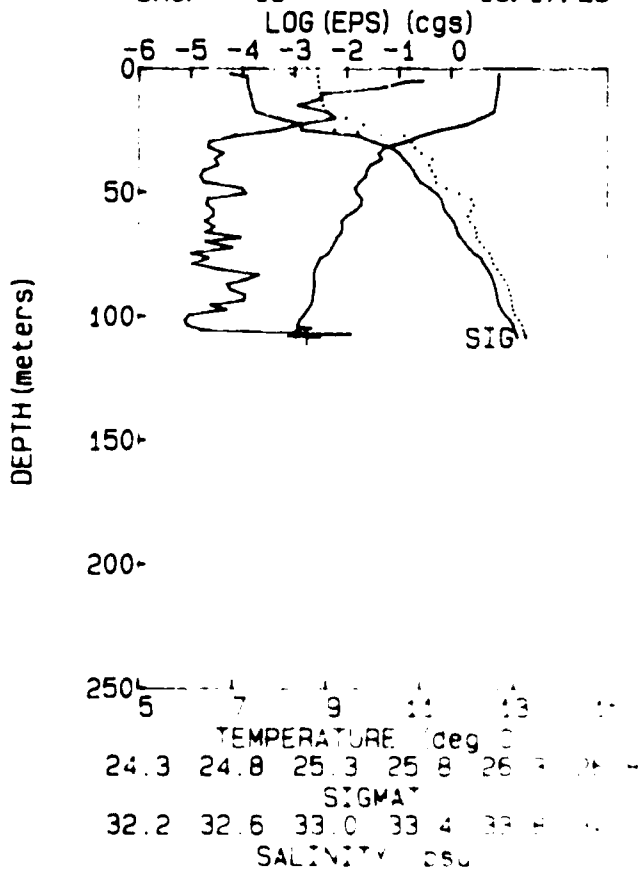
TAPE 159 06-06-87
DROP 13 15:57:03



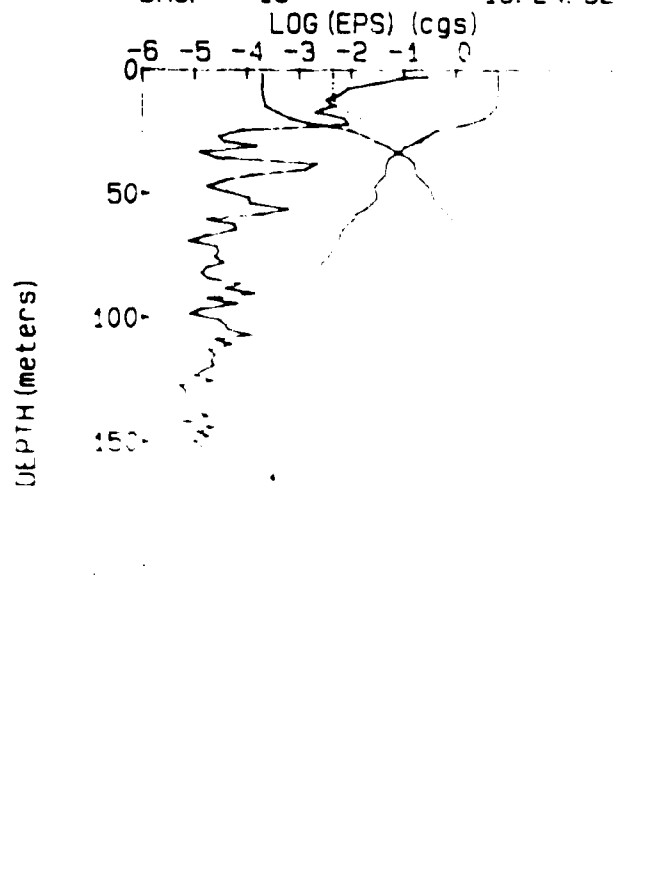
TAPE 159 06-06-87
DROP 14 16:04:02



TAPE 159 06-06-87
DROP 15 16:17:29



TAPE 159 06-06-87
DROP 16 16:24:32



NO-A182 961

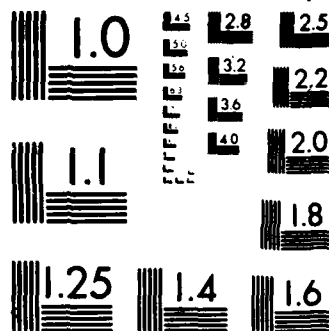
COASTAL TRANSITION ZONE PILOT - 1987 RAPID SAMPLING
VERTICAL PROFILER DB (U) OREGON STATE UNIV CORVALLIS
COLL OF OCEANOGRAPHY M M PARK ET AL JUN 87 DATA-135
N00014-87-K-0242 F/G 8/3

4/4

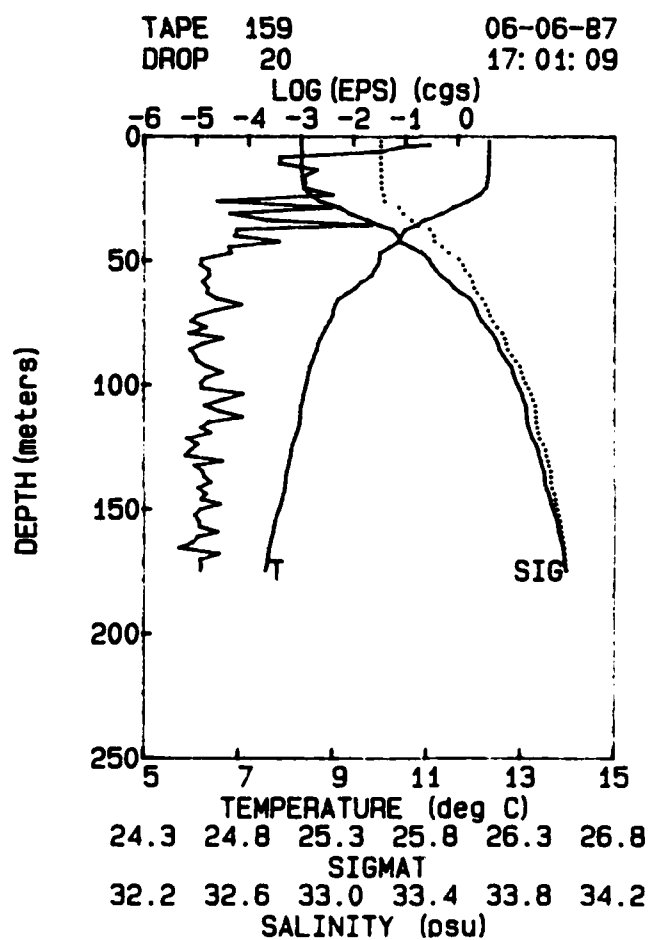
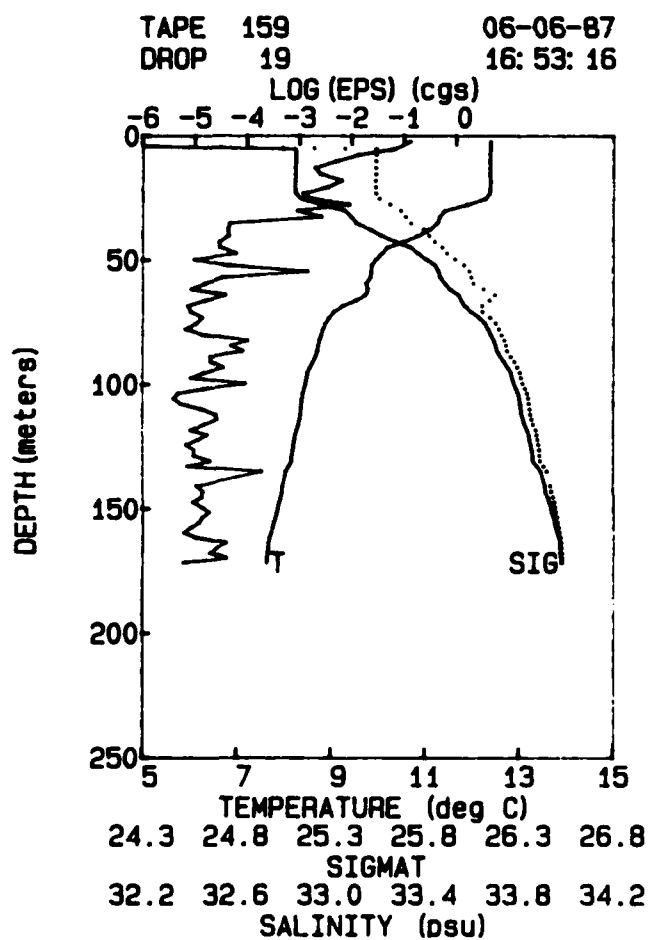
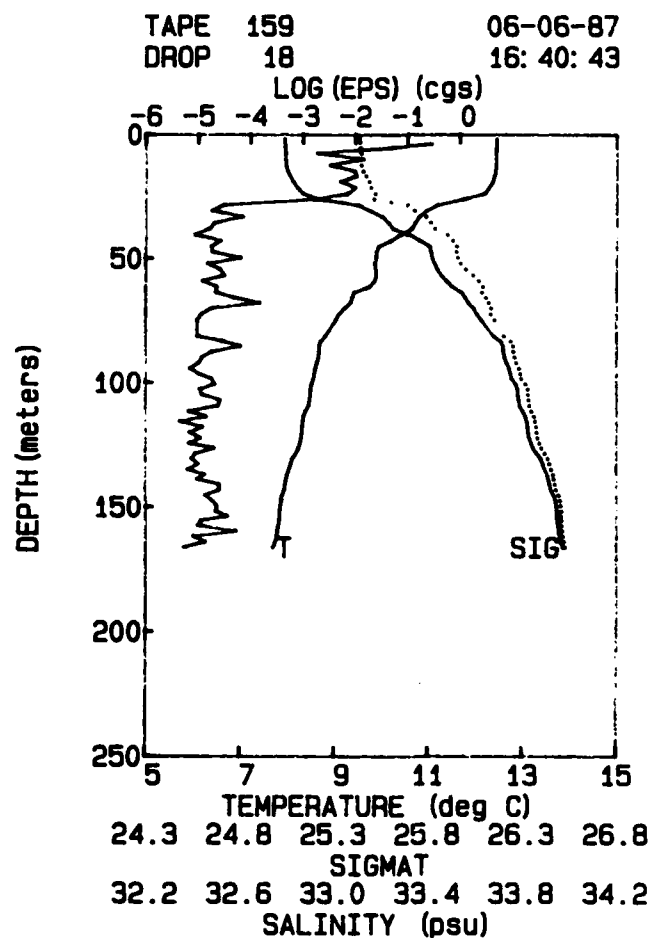
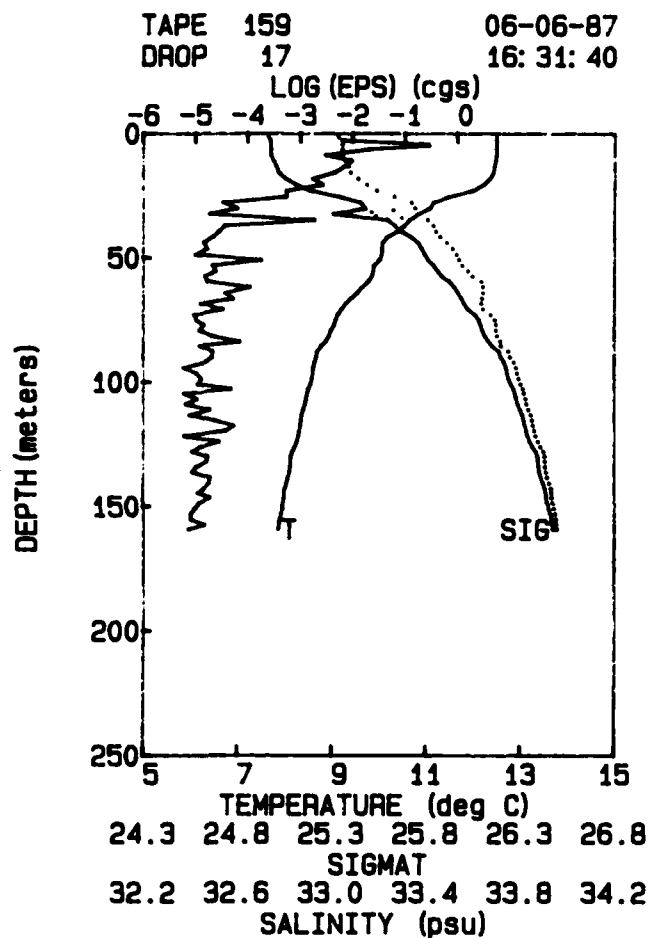
UNCLASSIFIED

NL

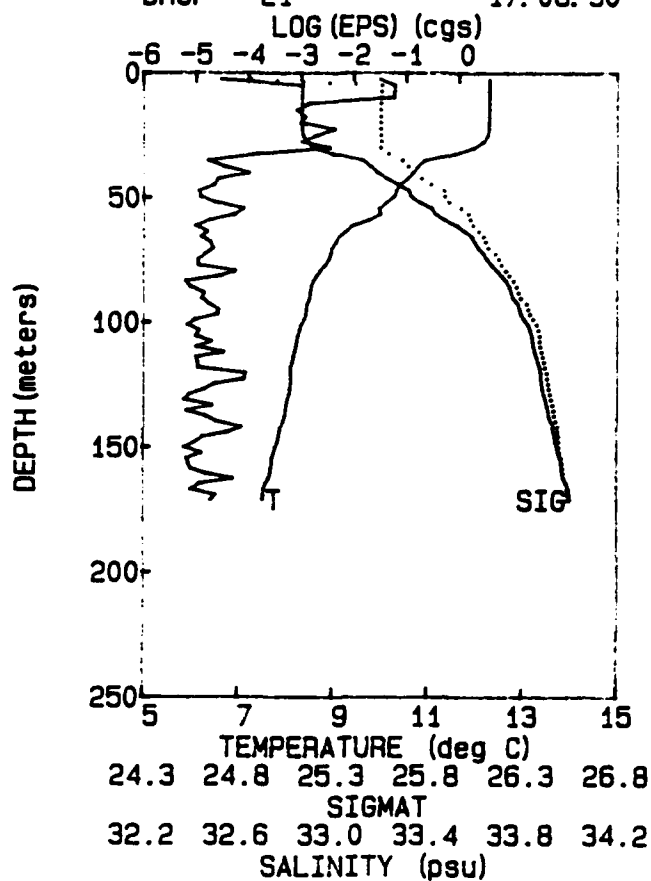




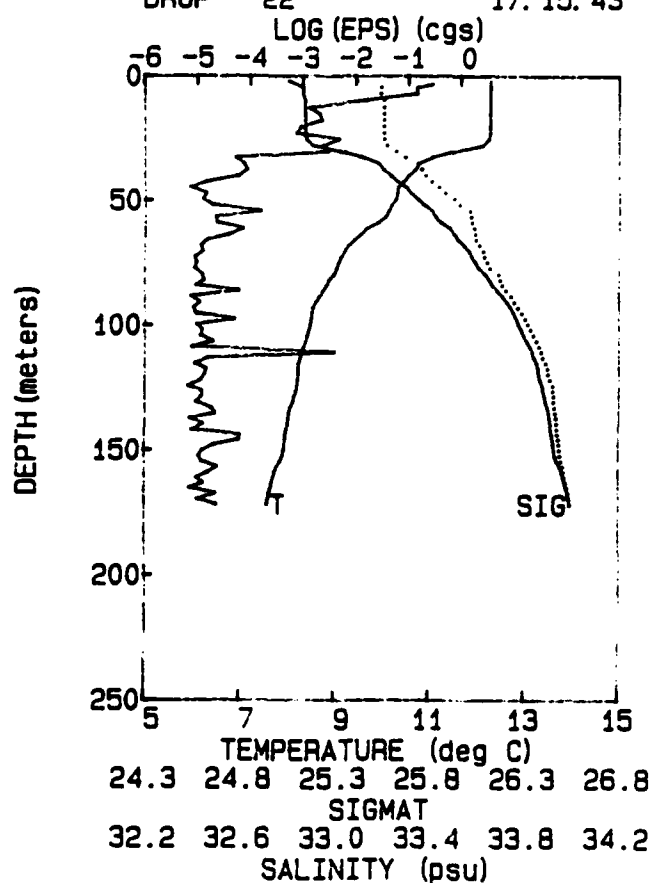
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



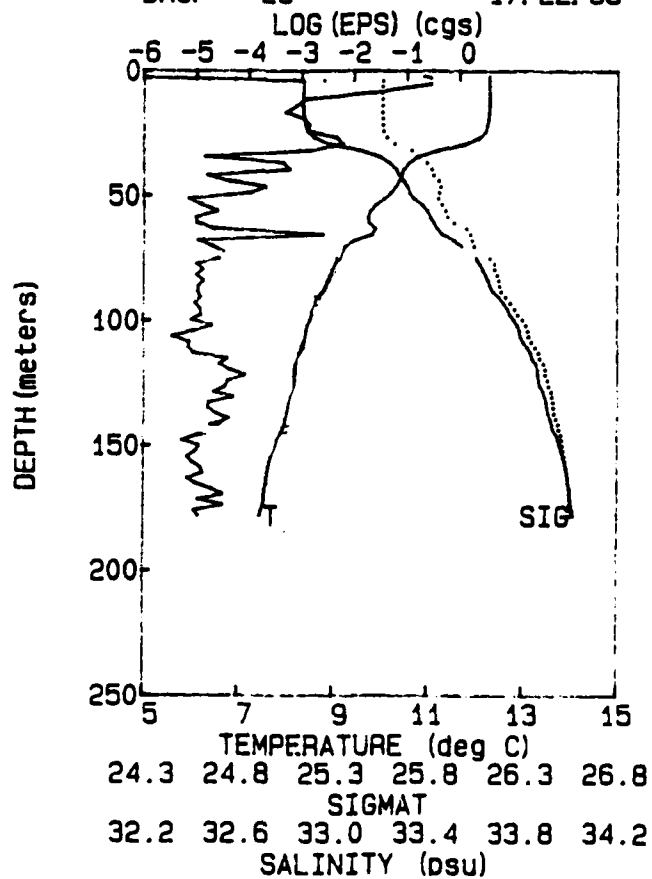
TAPE 159 06-06-87
DROP 21 17: 08: 30



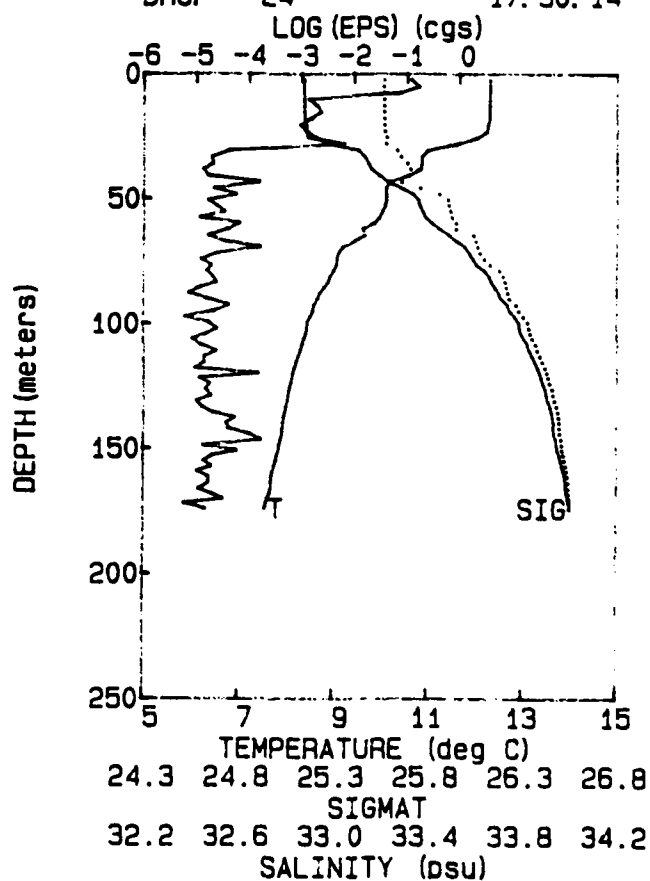
TAPE 159 06-06-87
DROP 22 17: 15: 43



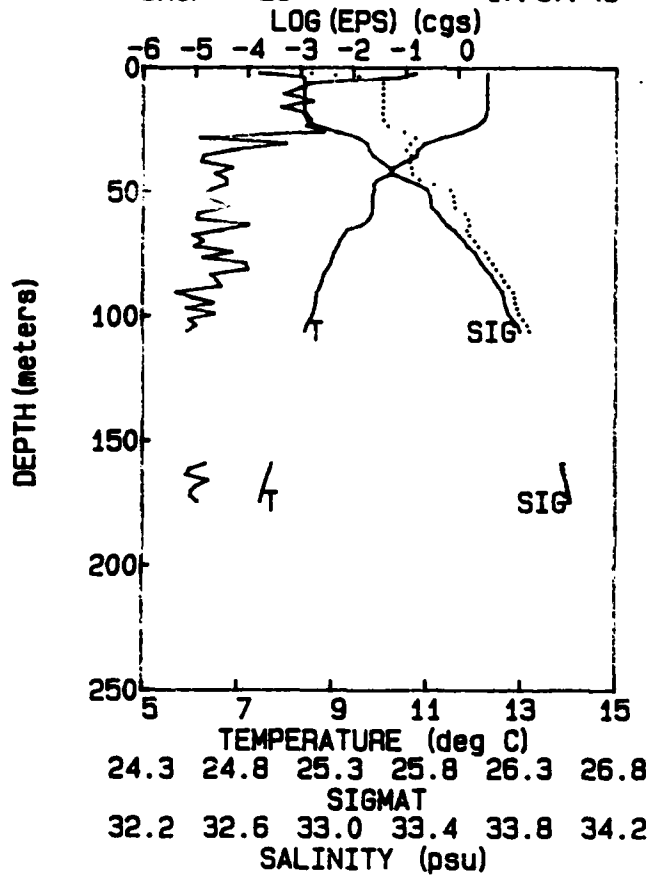
TAPE 159 06-06-87
DROP 23 17: 22: 55



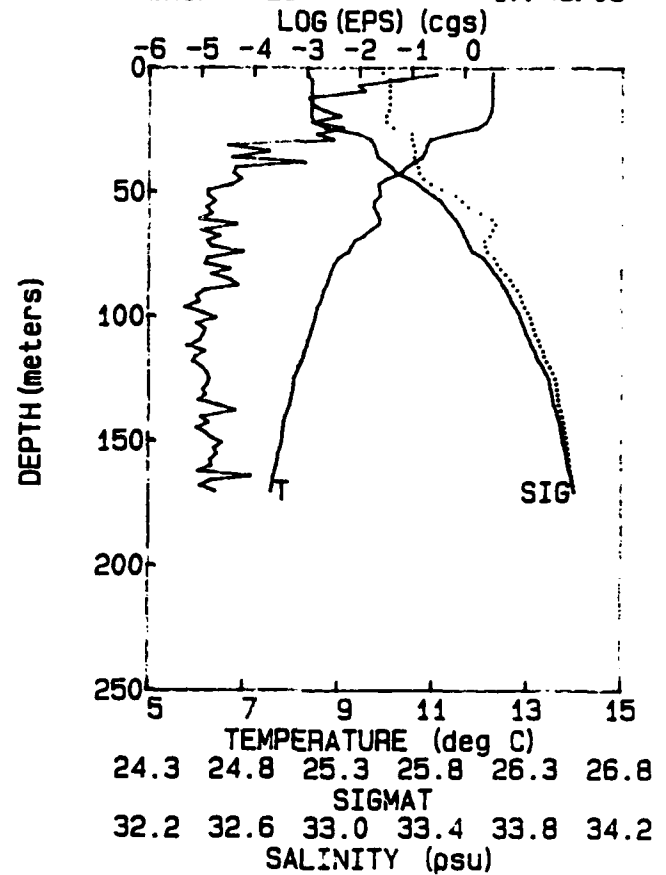
TAPE 159 06-06-87
DROP 24 17: 30: 14



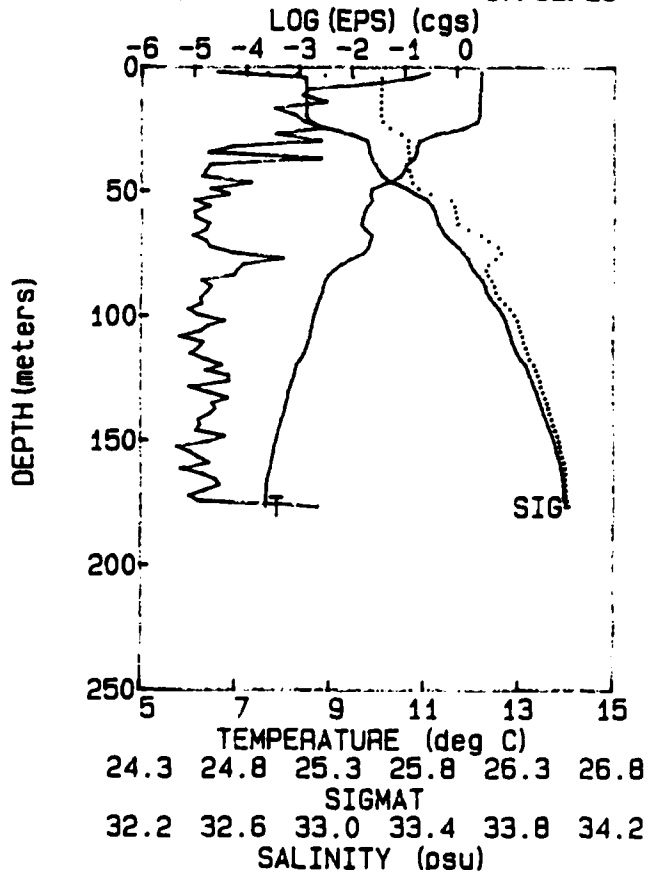
TAPE 159 06-06-87
DROP 25 17: 37: 49



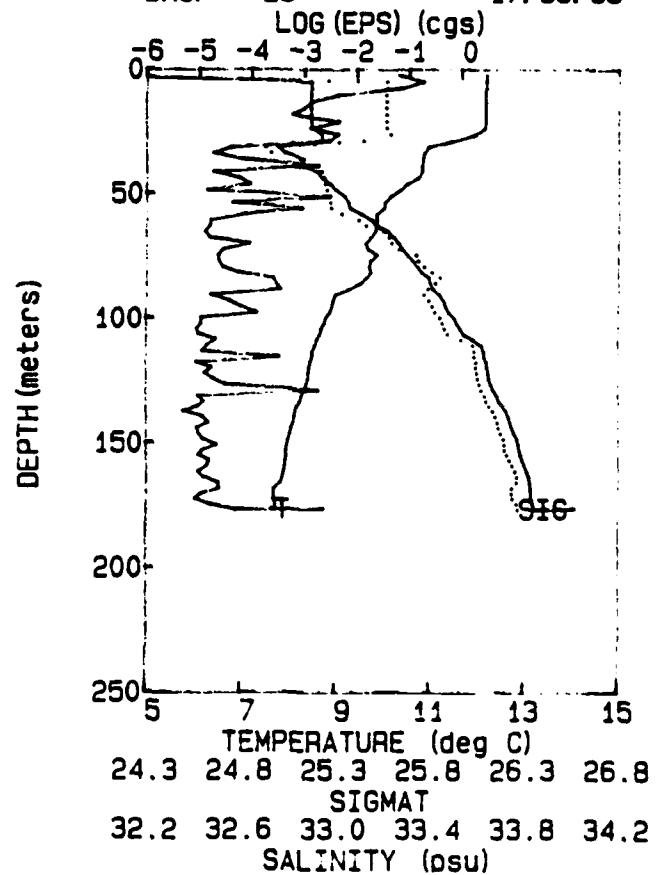
TAPE 159 06-06-87
DROP 26 17: 45: 09

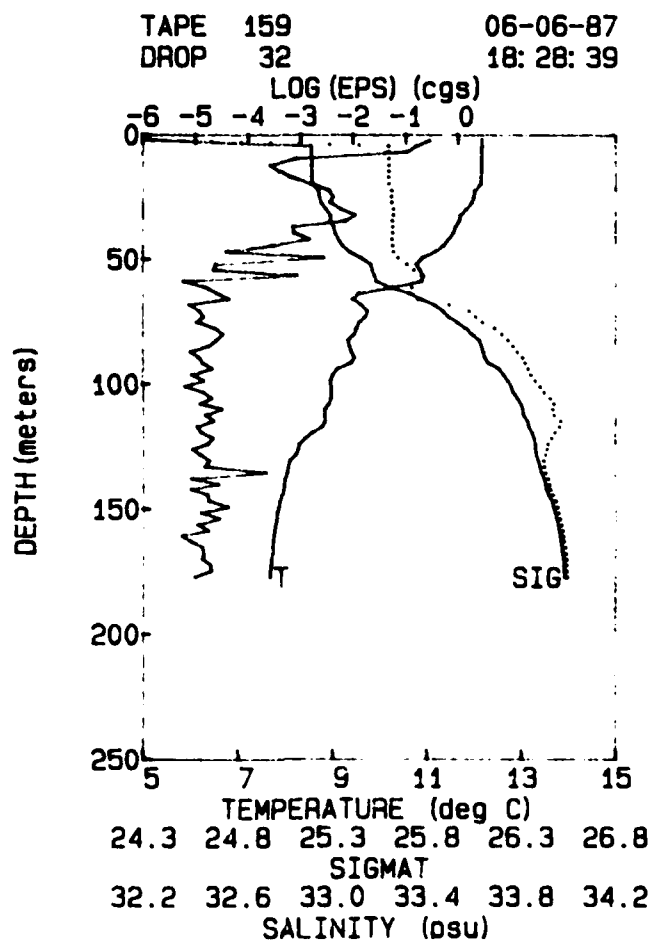
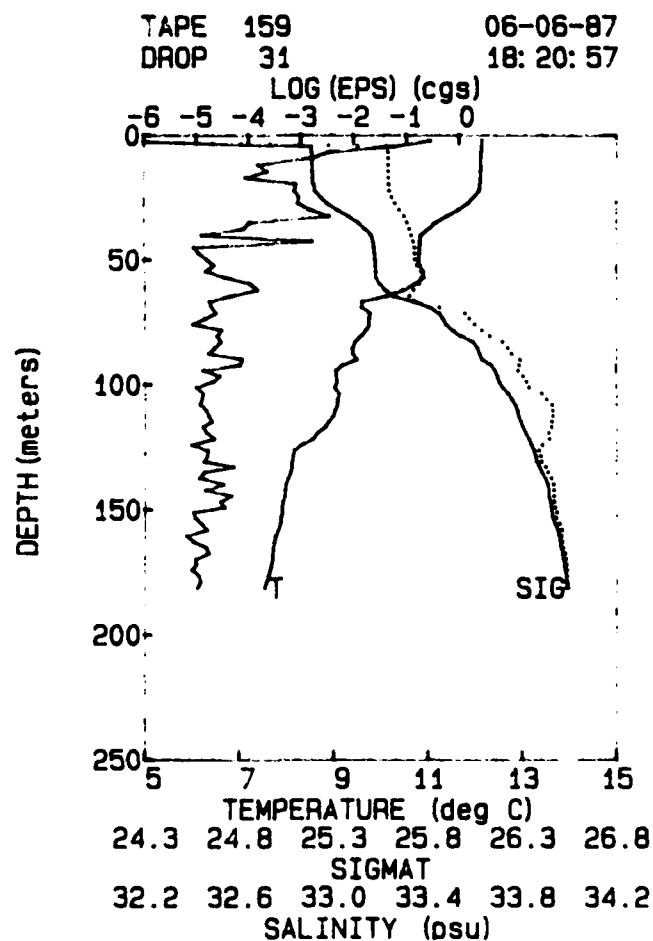
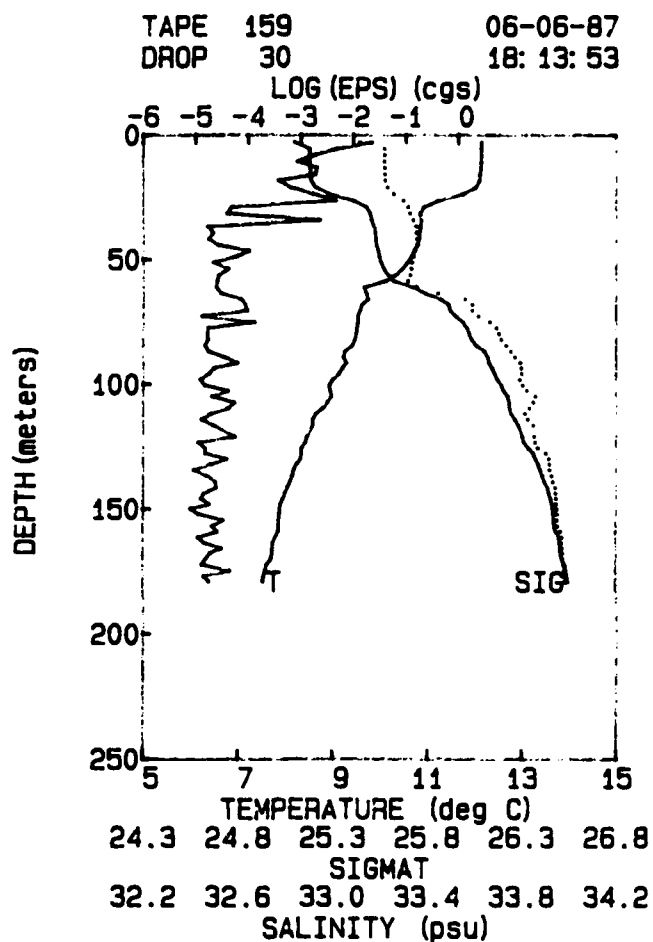
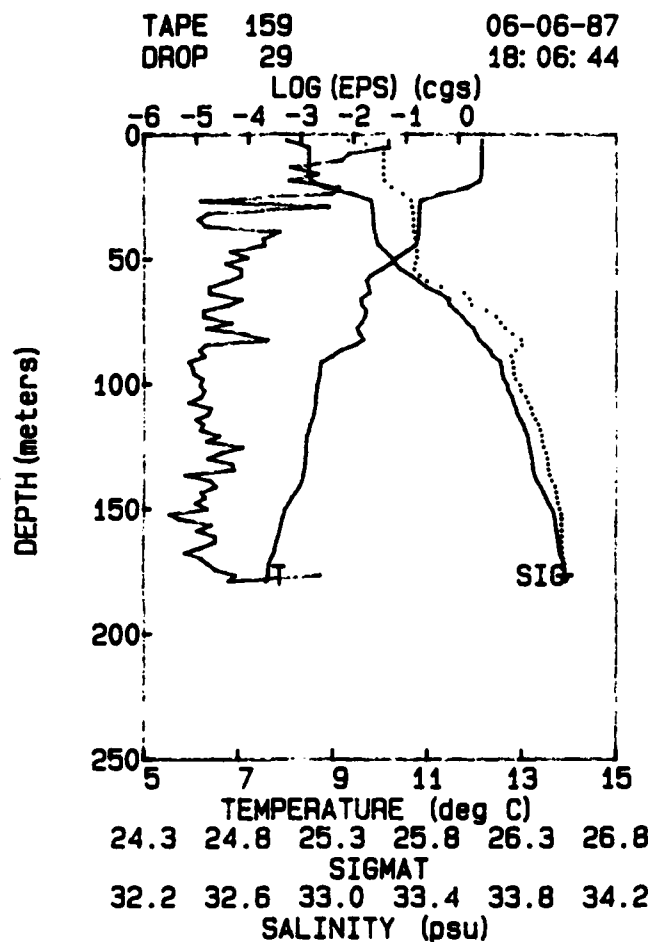


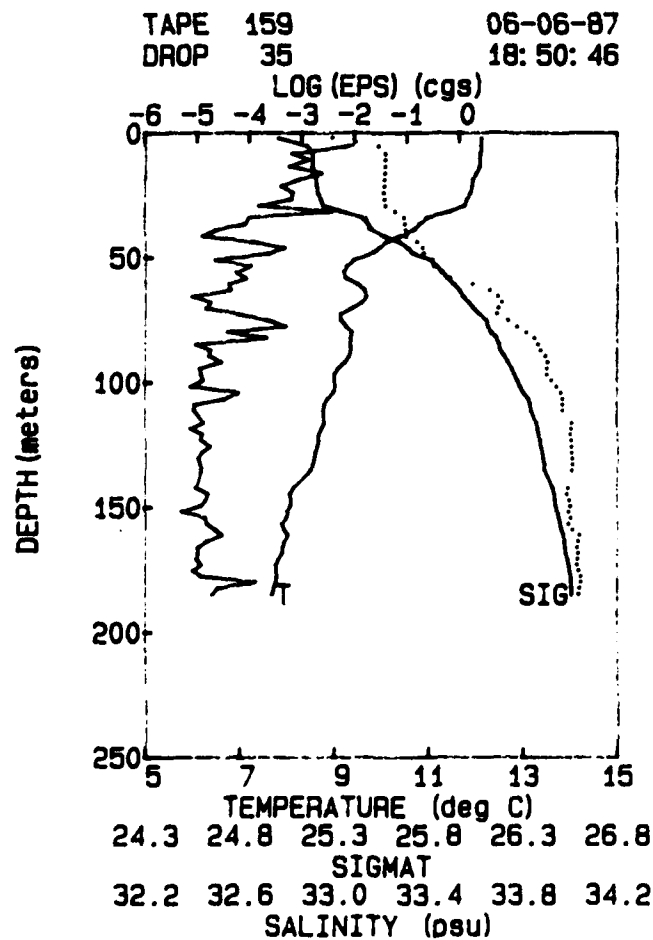
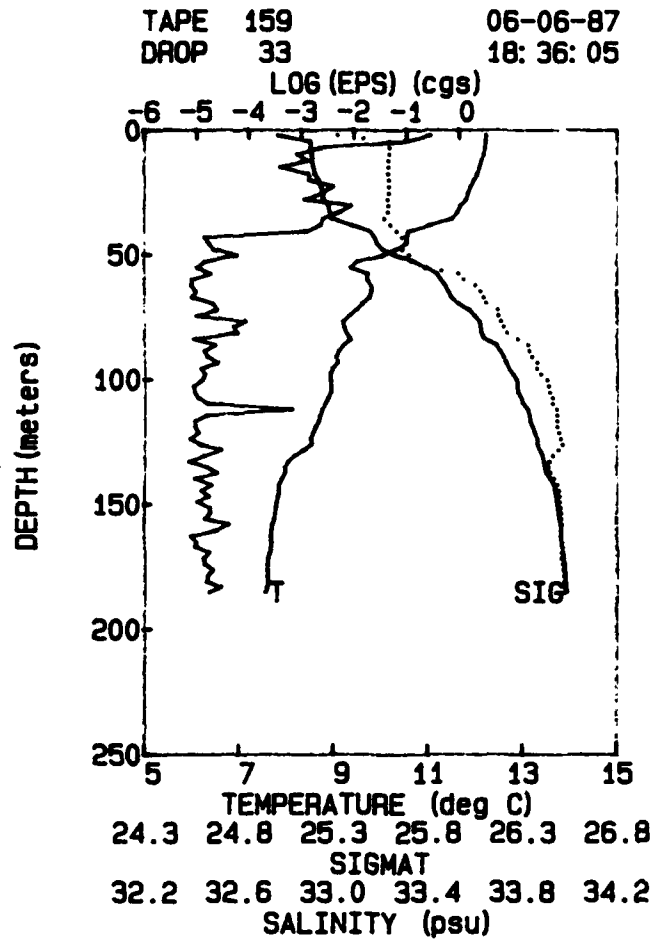
TAPE 159 06-06-87
DROP 27 17: 52: 28

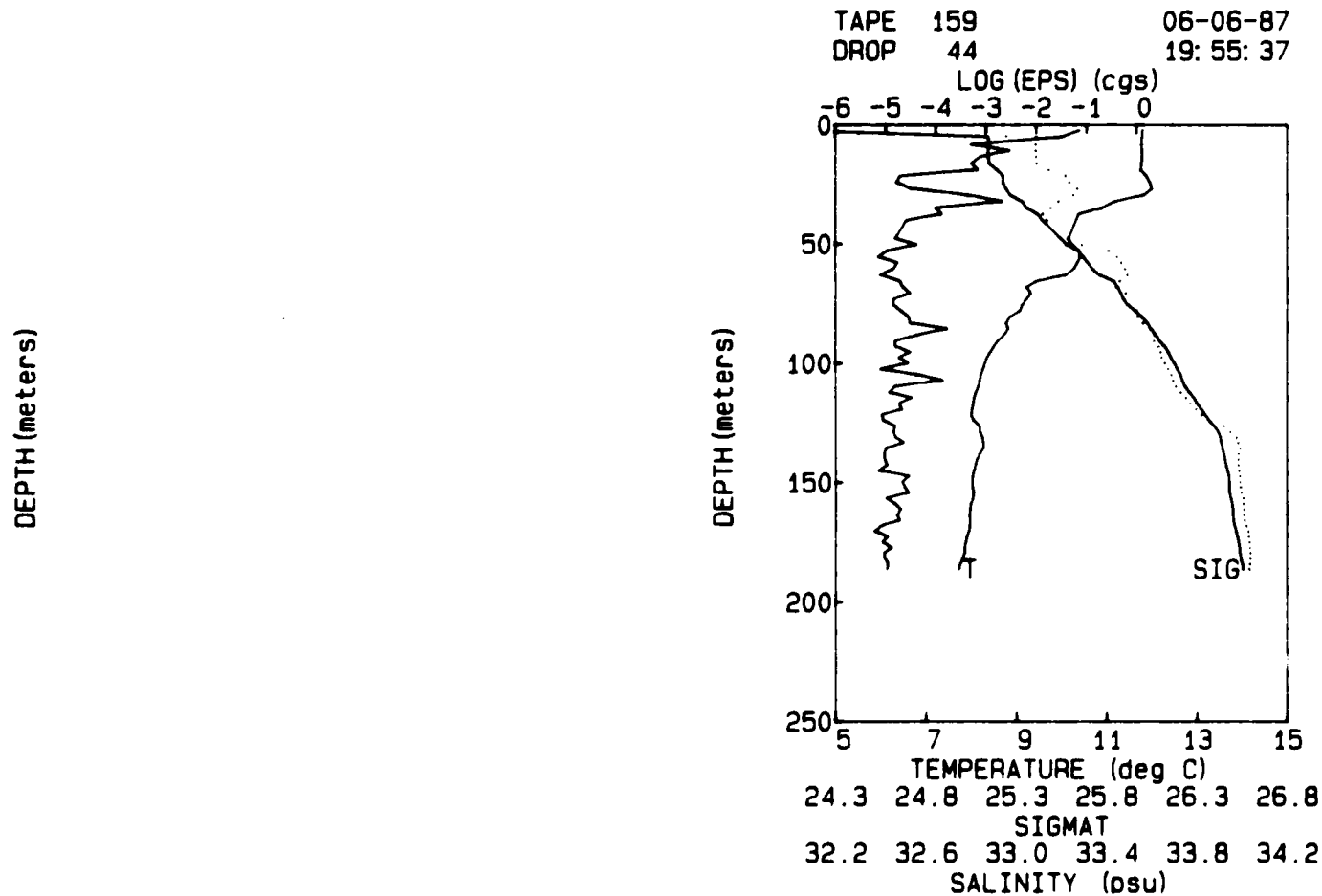
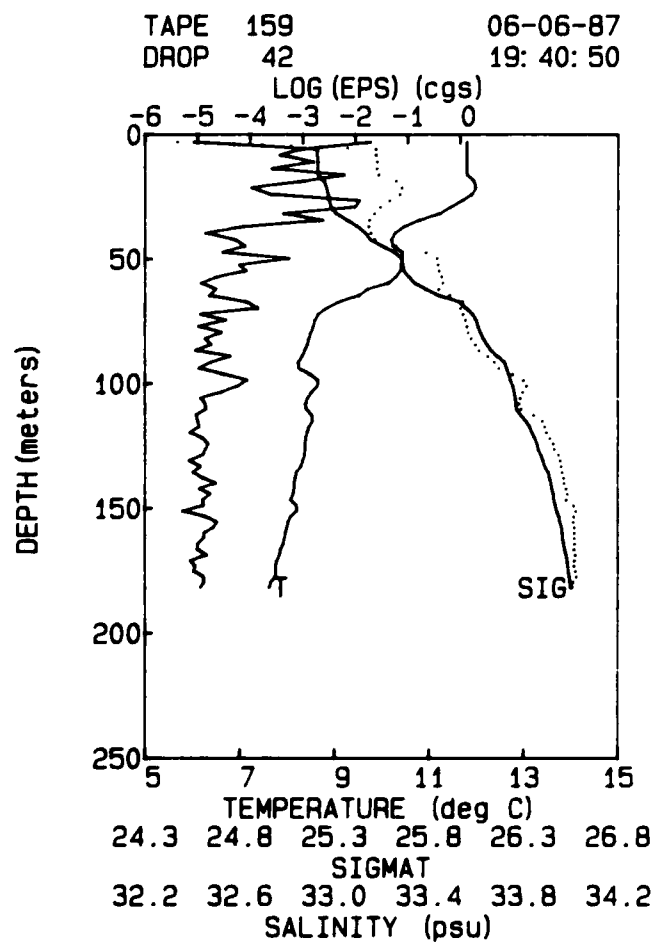
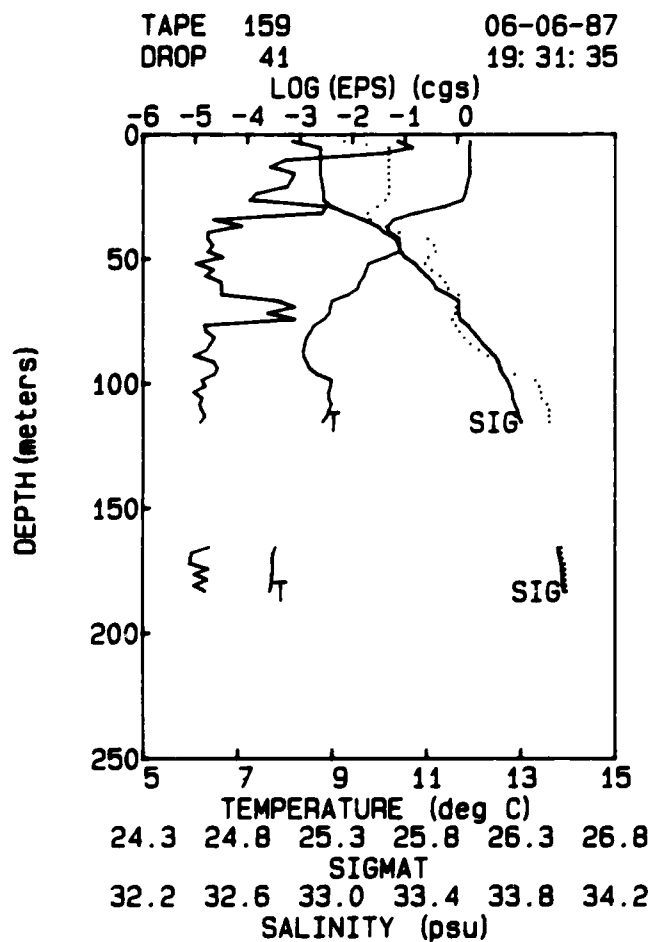


TAPE 159 06-06-87
DROP 28 17: 59: 35

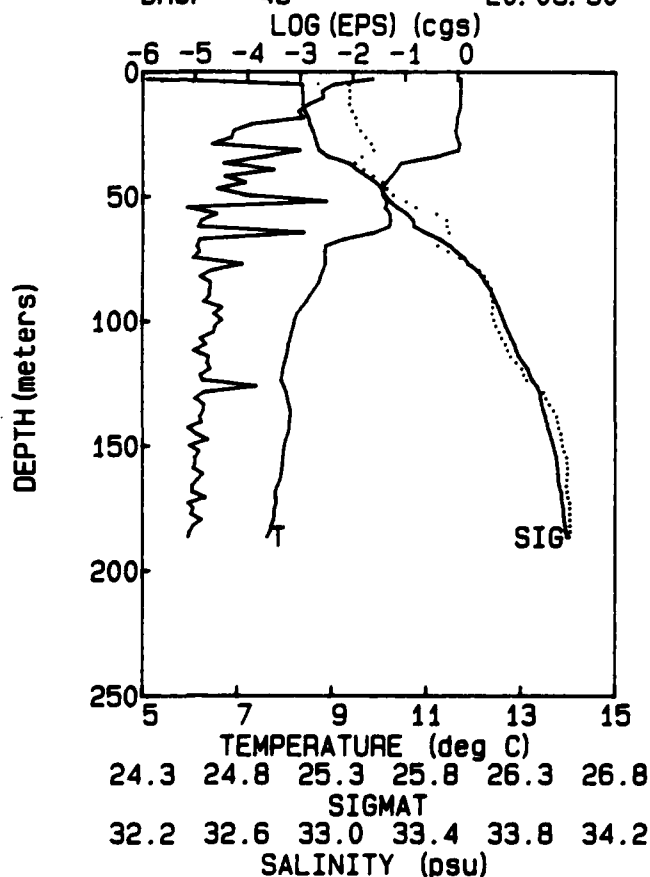




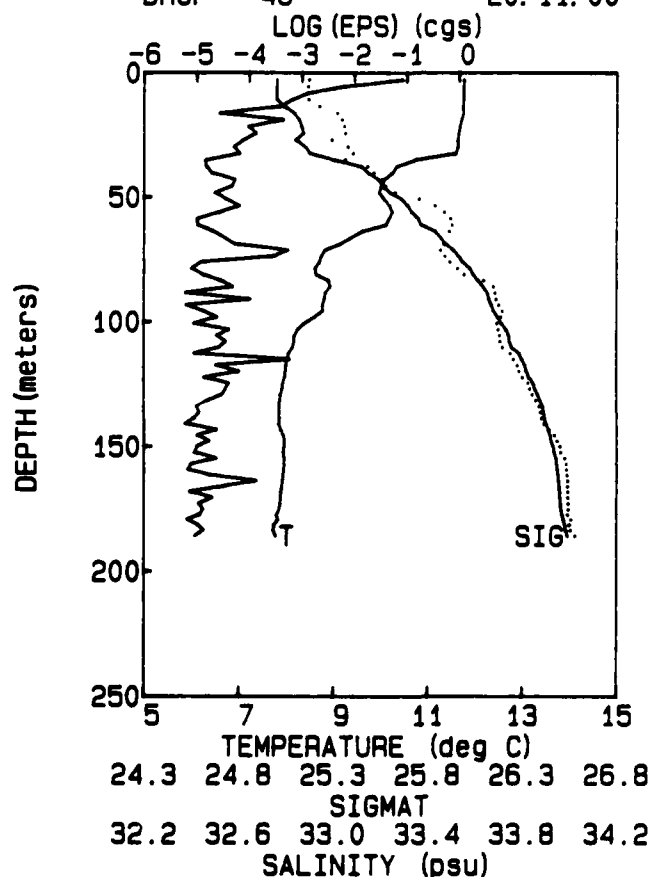




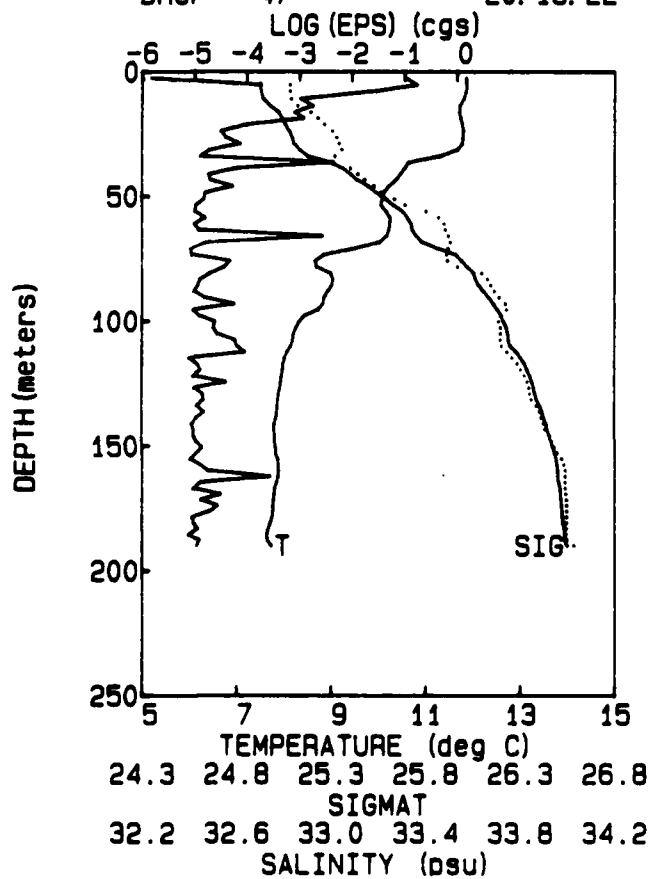
TAPE 159 06-06-87
DROP 45 20:03:30



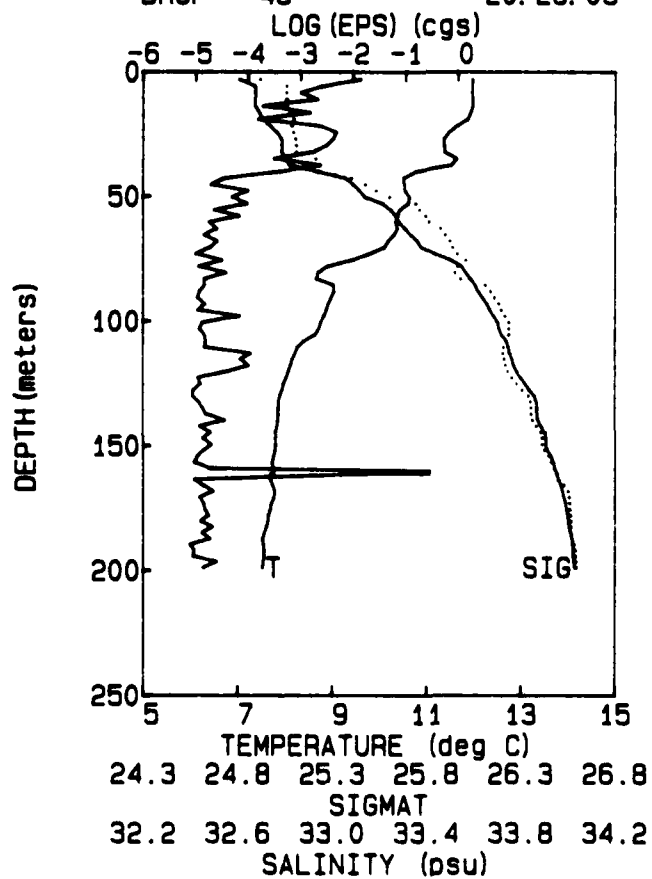
TAPE 159 06-06-87
DROP 46 20:11:00

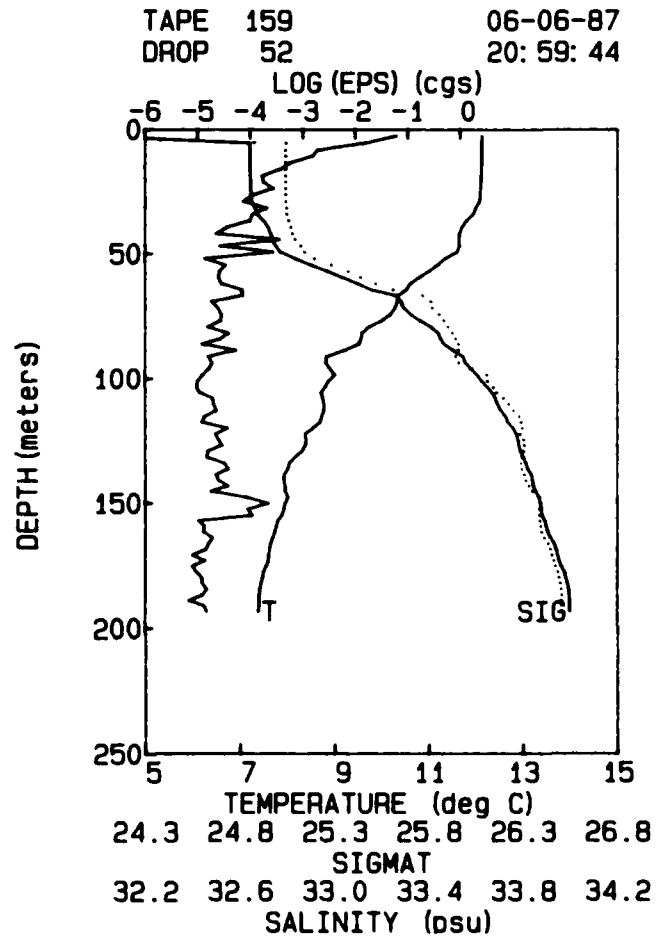
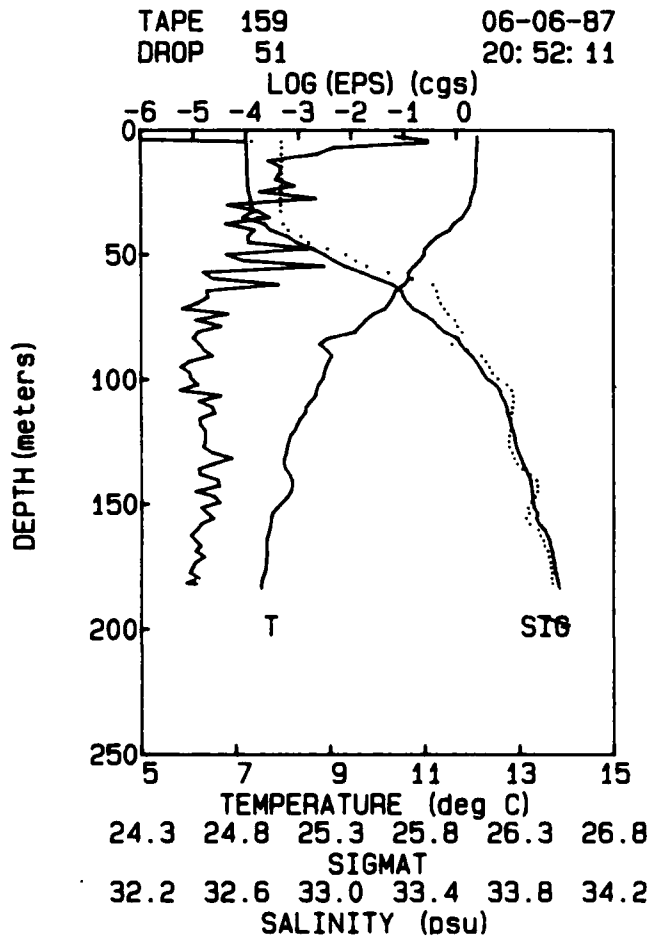
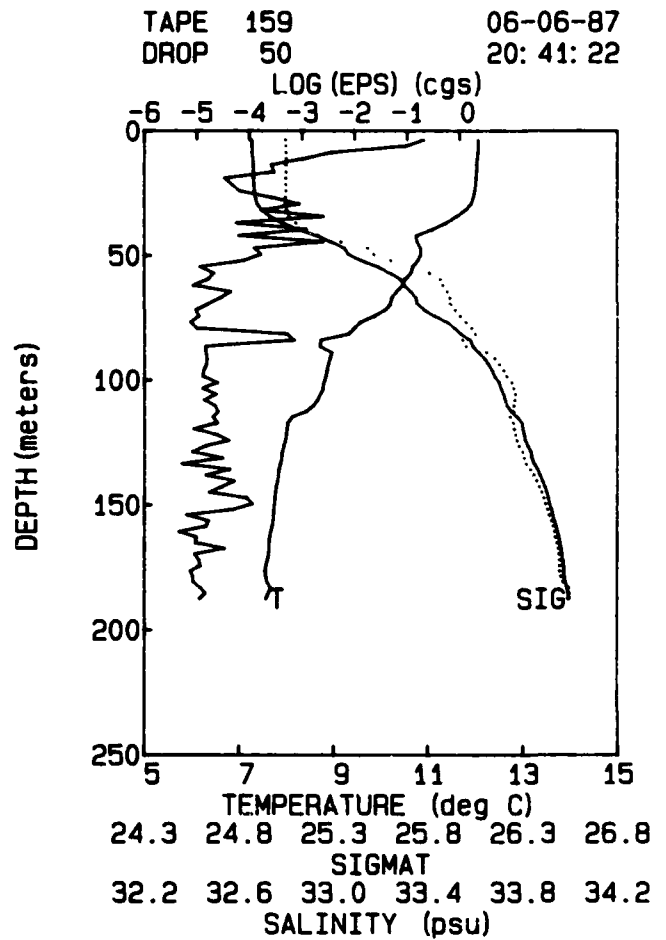
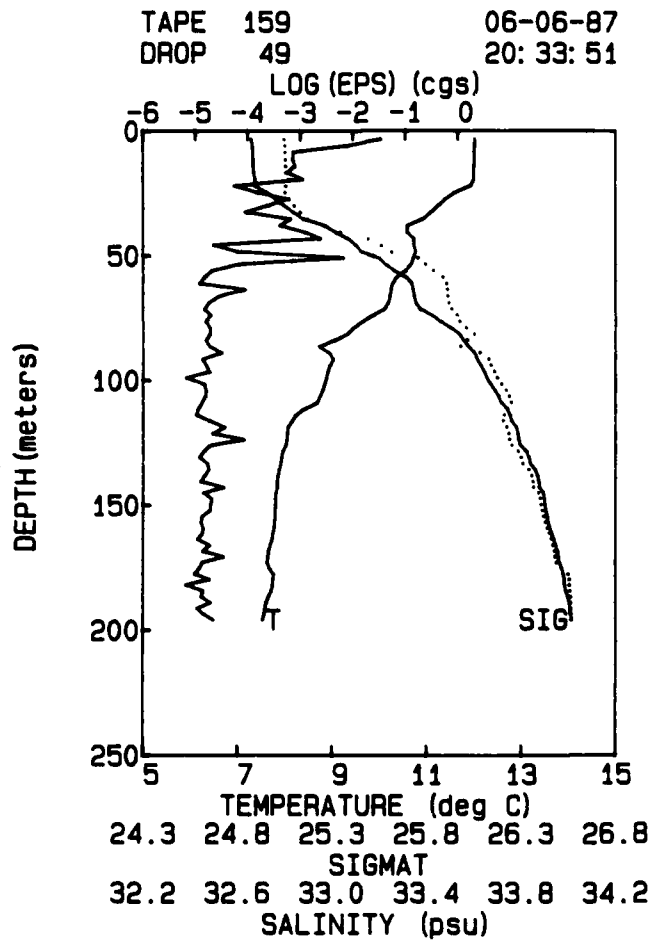


TAPE 159 06-06-87
DROP 47 20:18:22

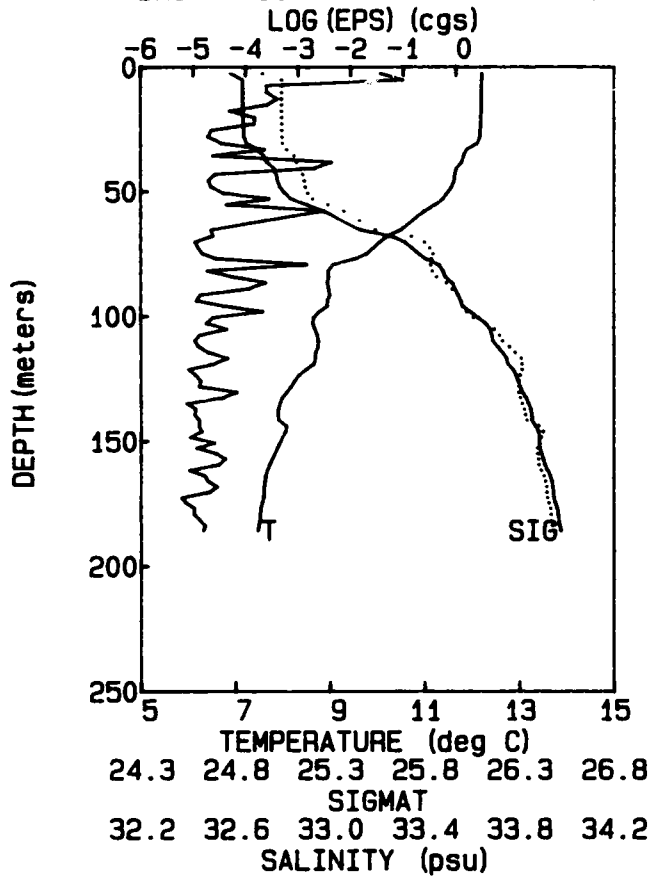


TAPE 159 06-06-87
DROP 48 20:26:03

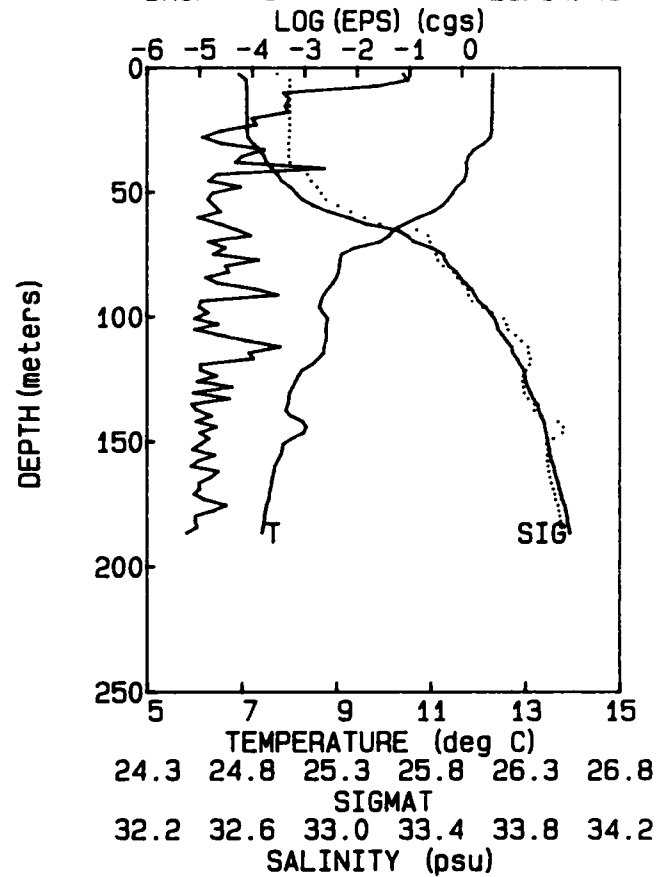




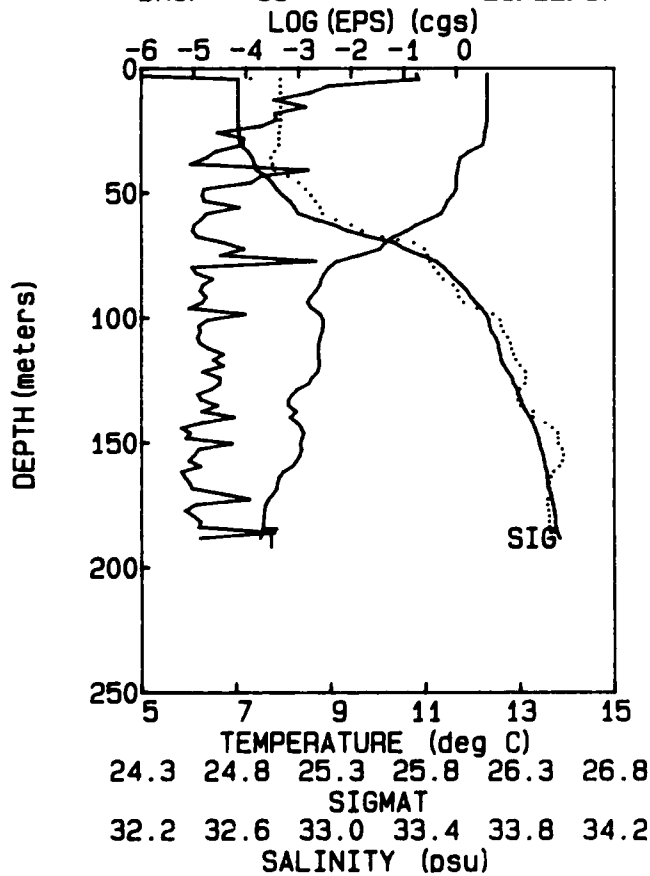
TAPE 159 06-06-87
DROP 53 21: 07: 14



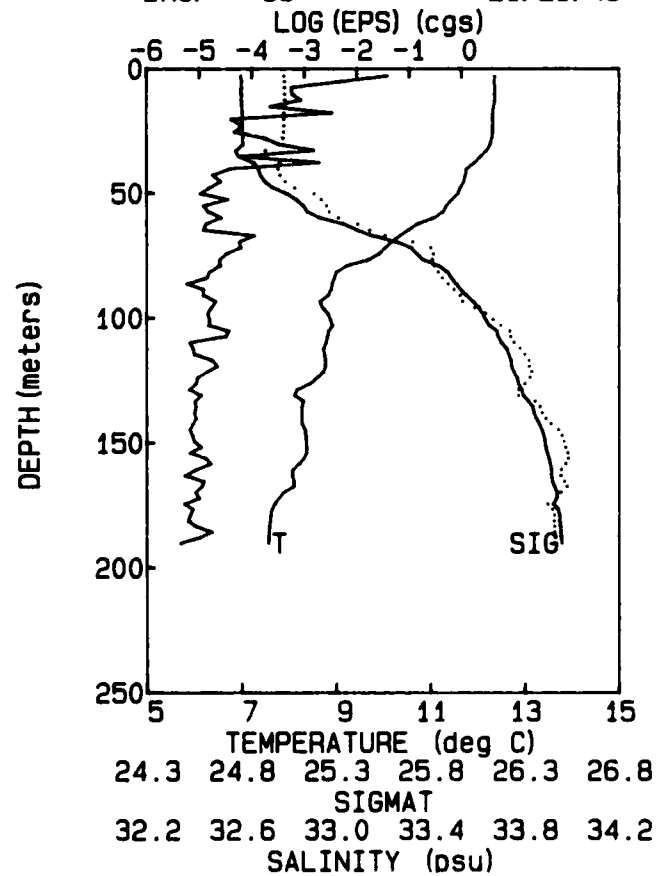
TAPE 159 06-06-87
DROP 54 21: 14: 43

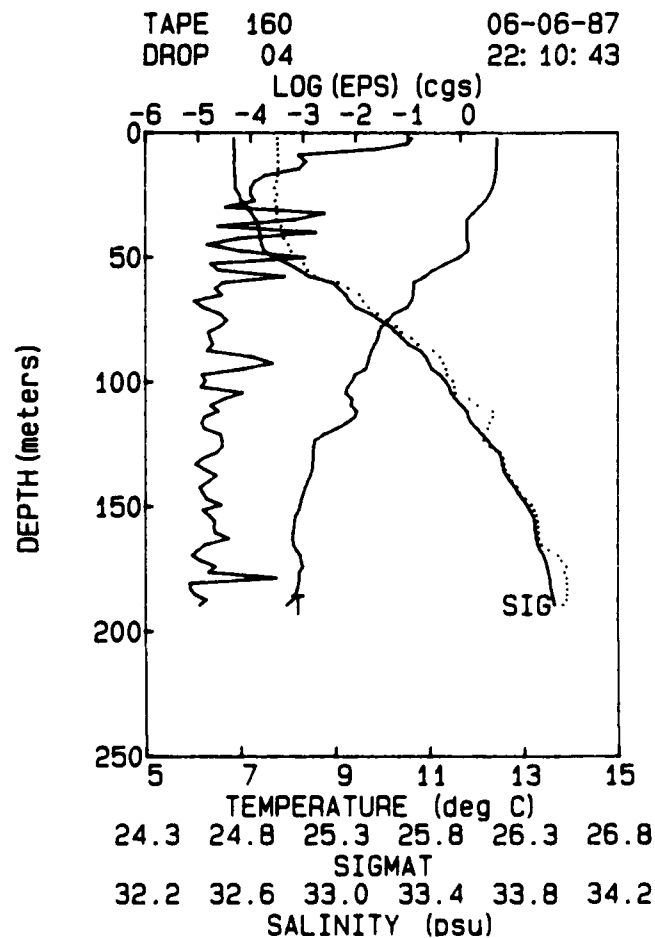
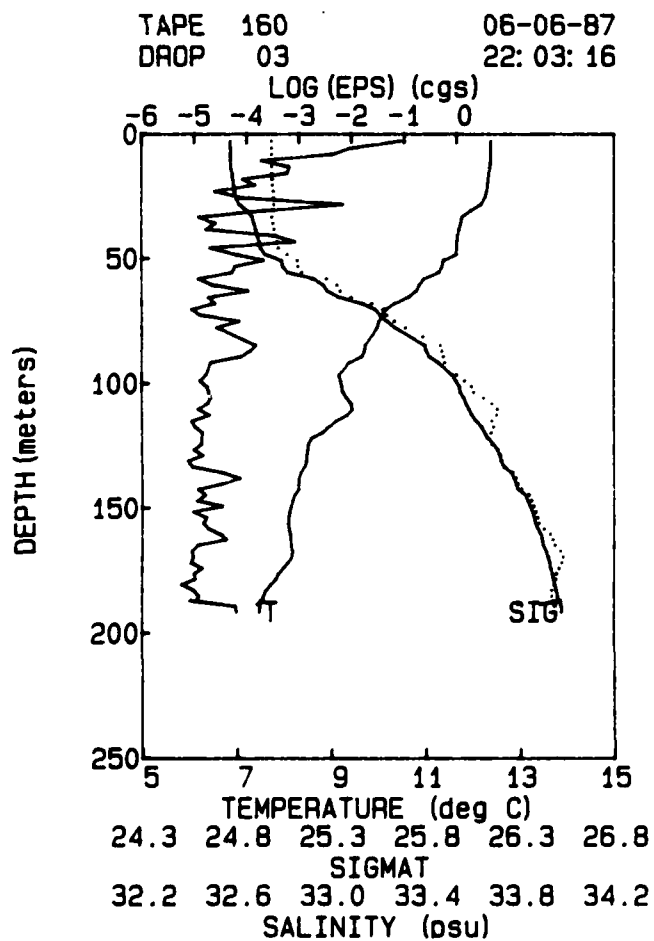
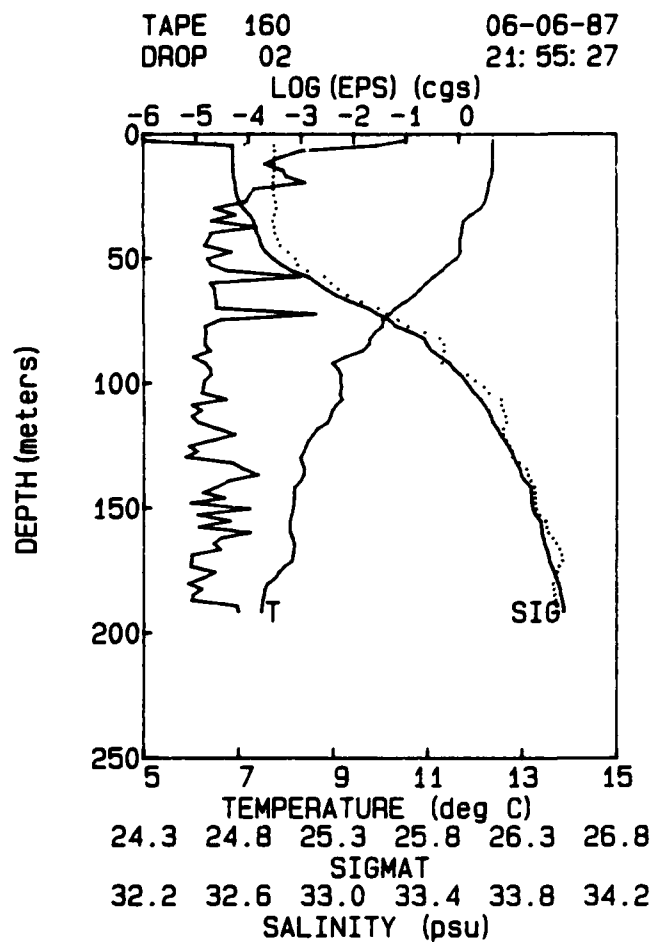
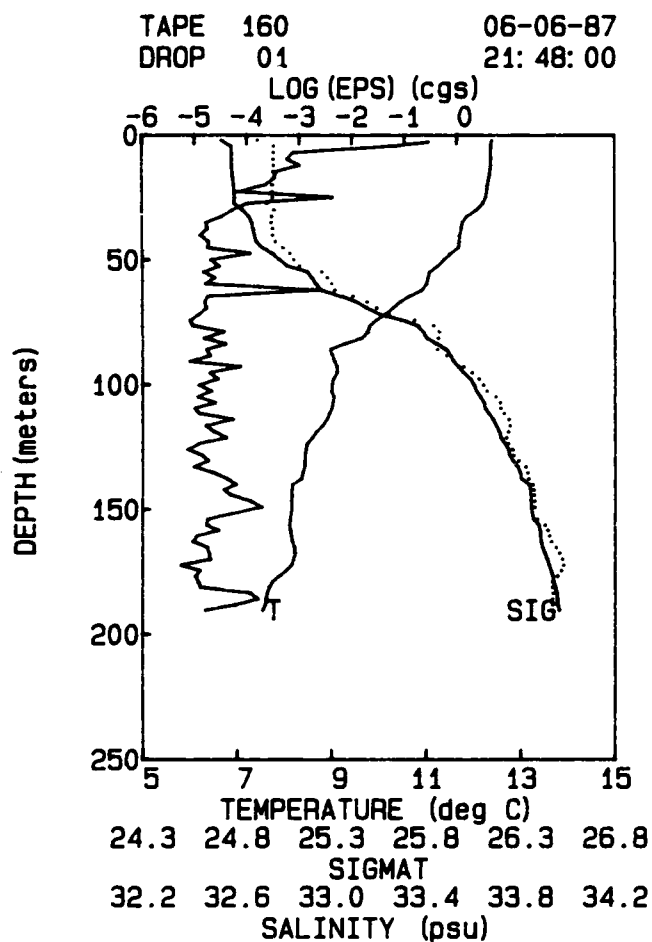


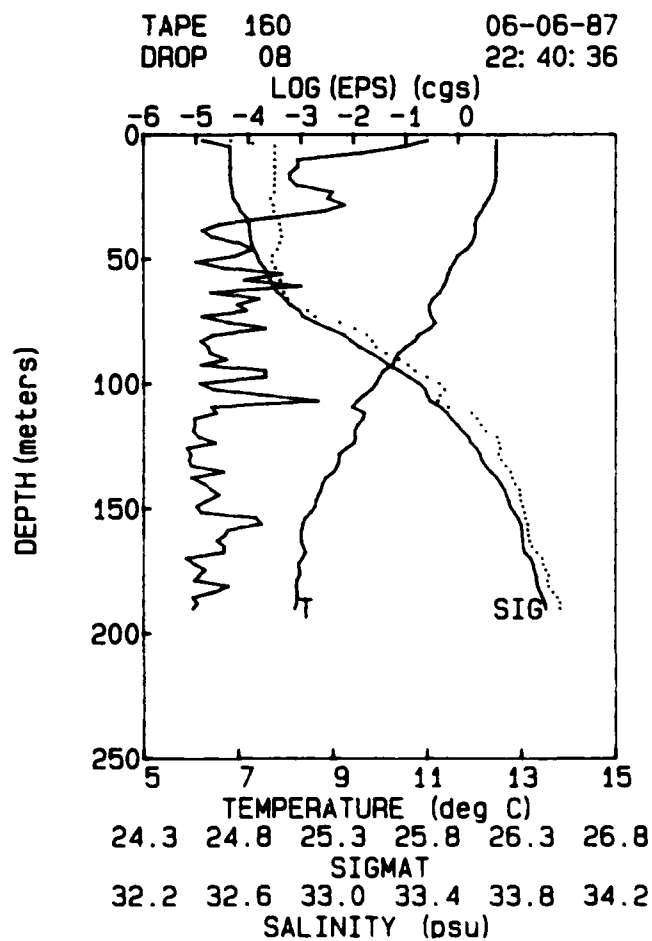
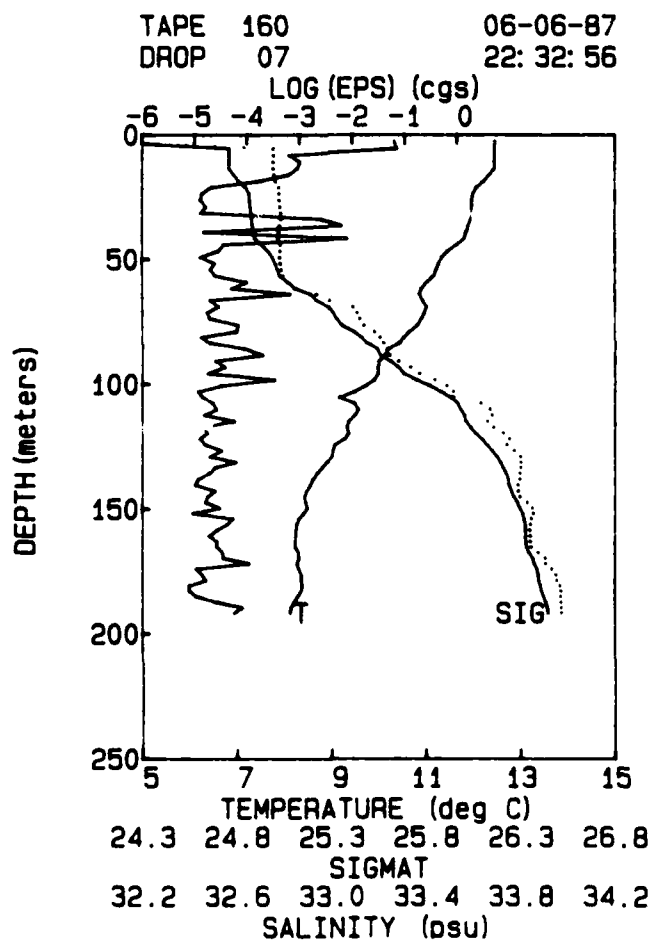
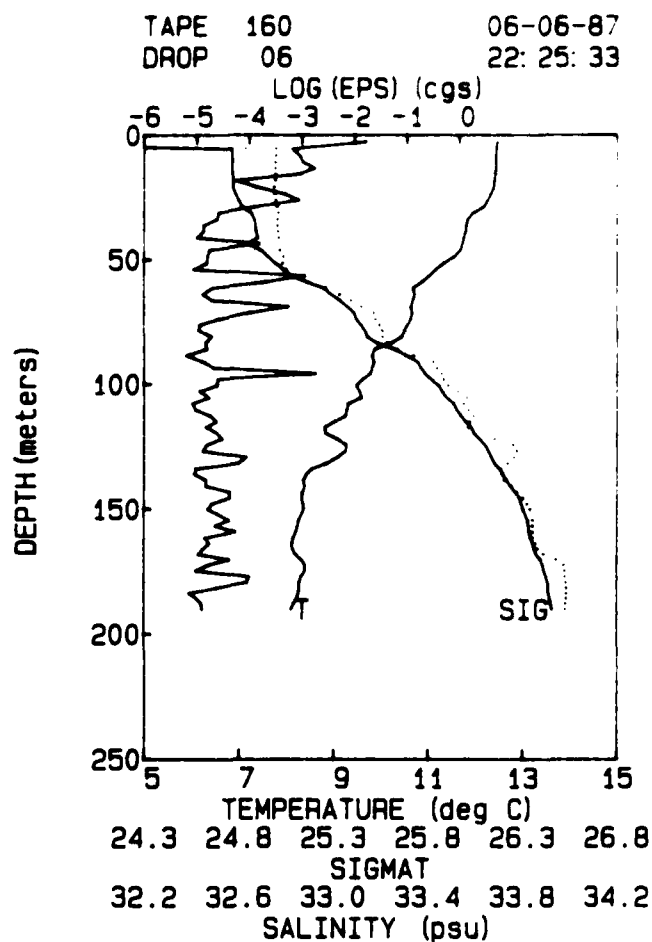
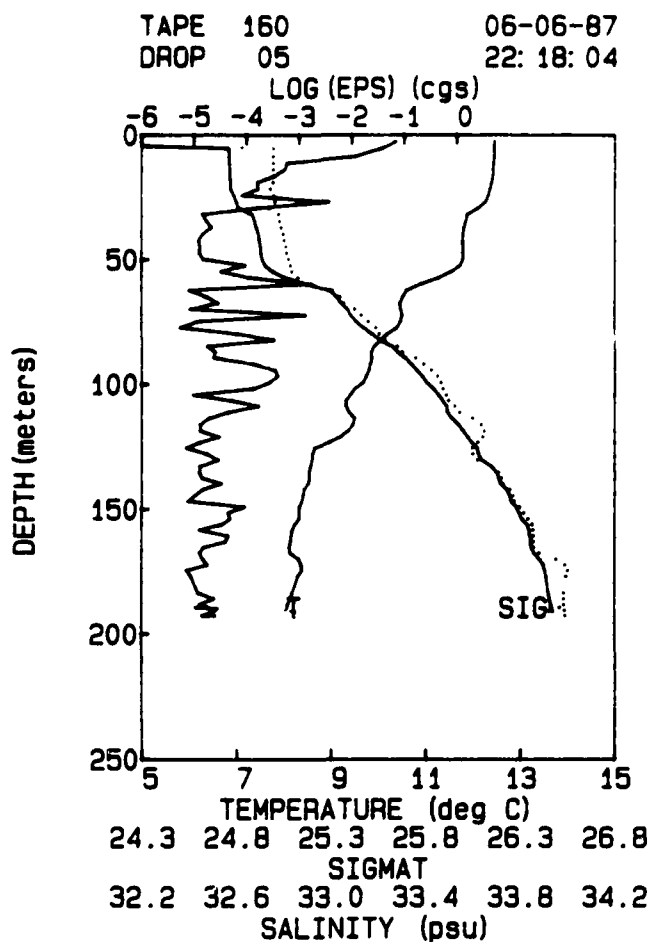
TAPE 159 06-06-87
DROP 55 21: 22: 17



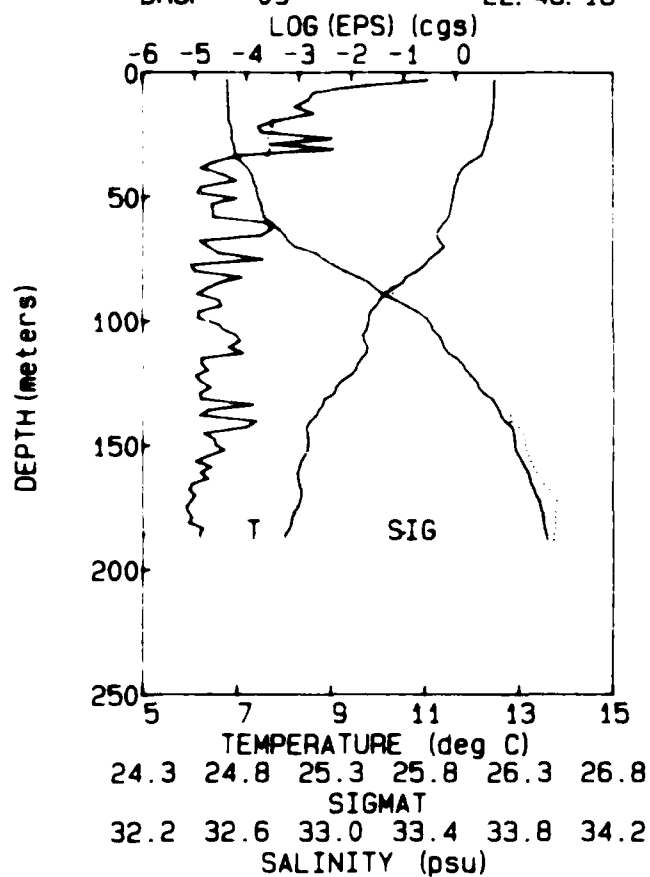
TAPE 159 06-06-87
DROP 56 21: 29: 49



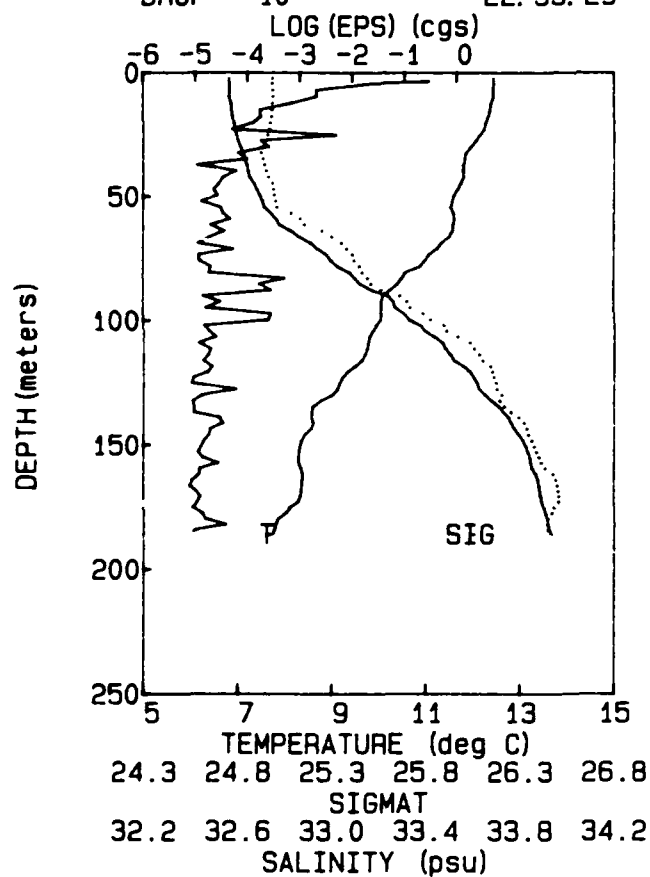




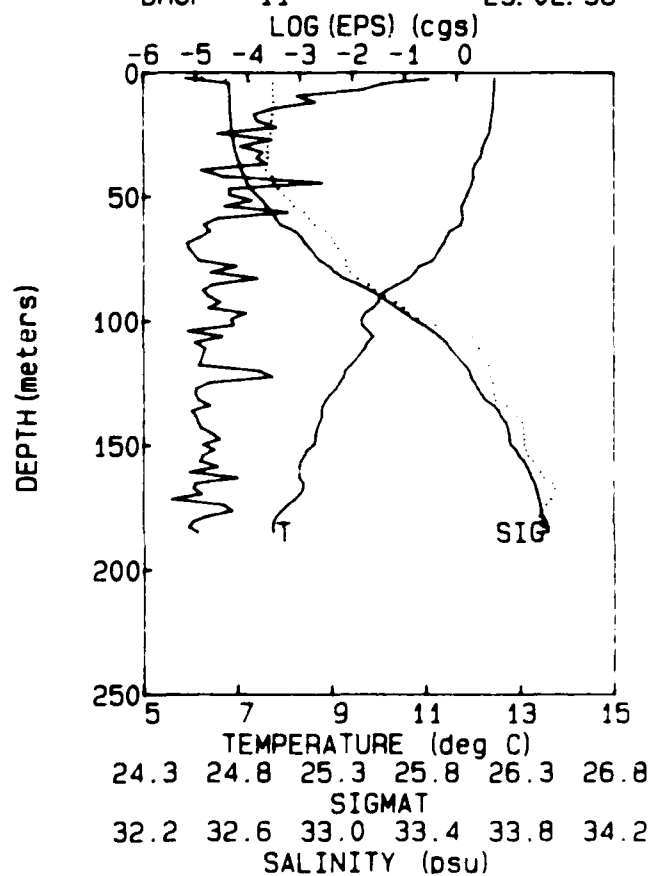
TAPE 160 06-06-87
DROP 09 22:48:18



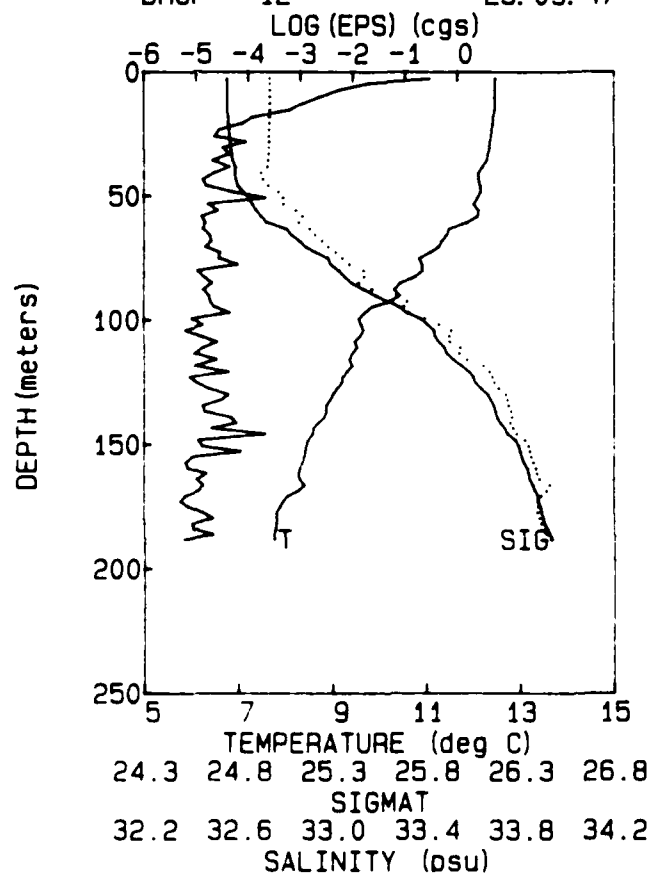
TAPE 160 06-06-87
DROP 10 22:55:29

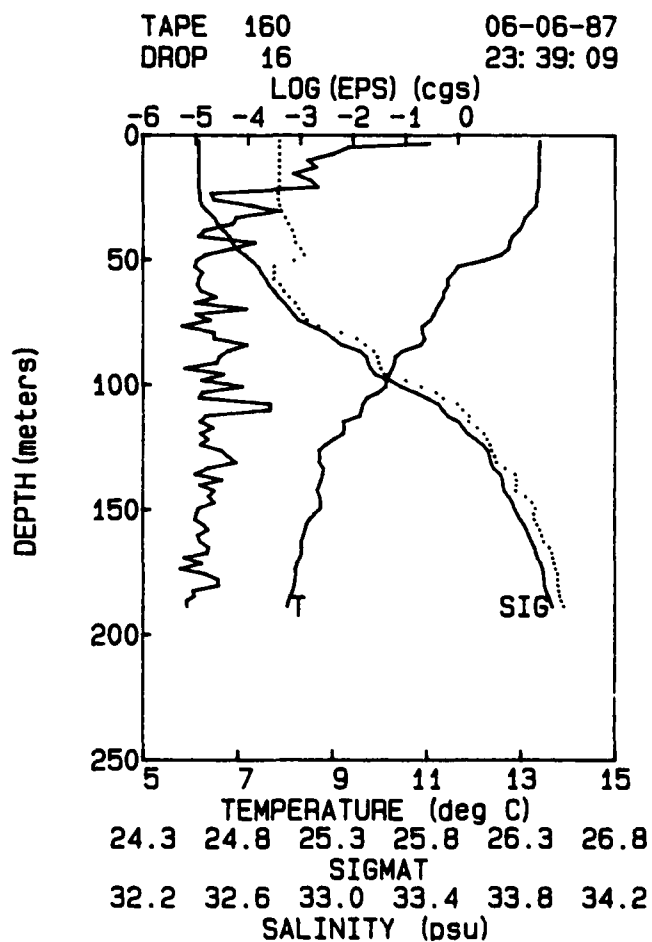
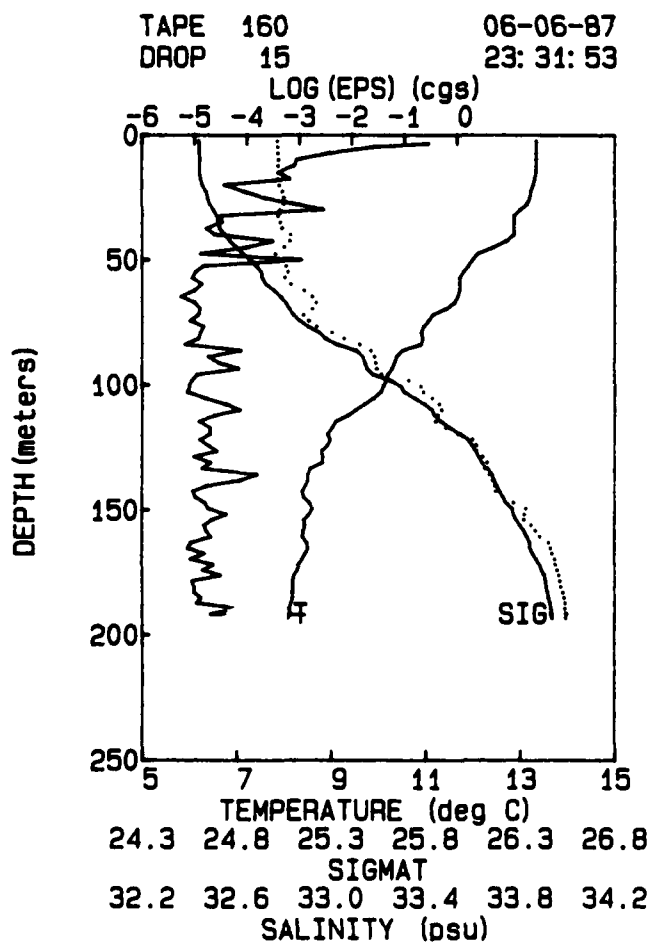
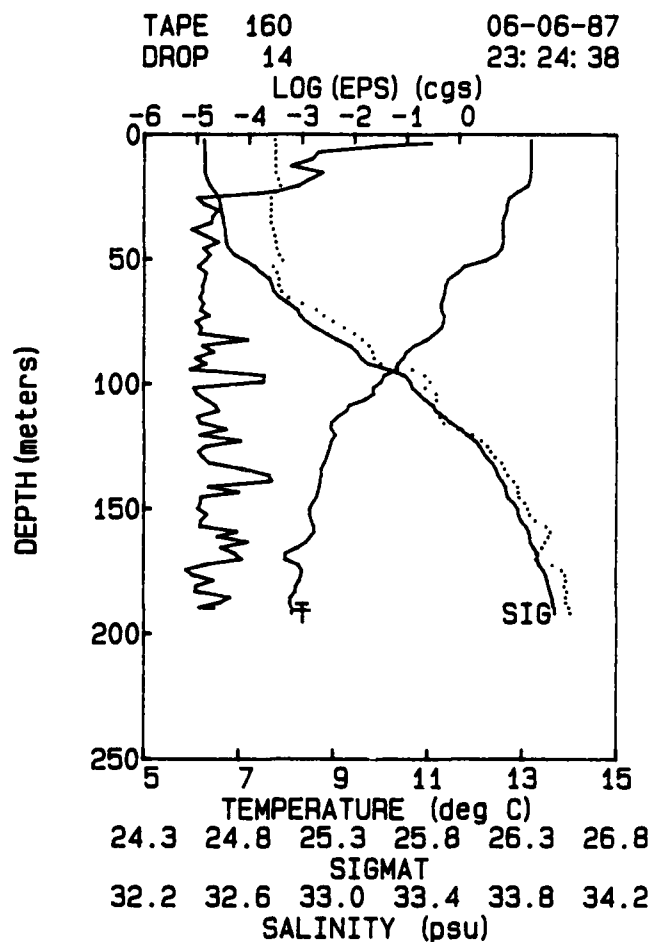
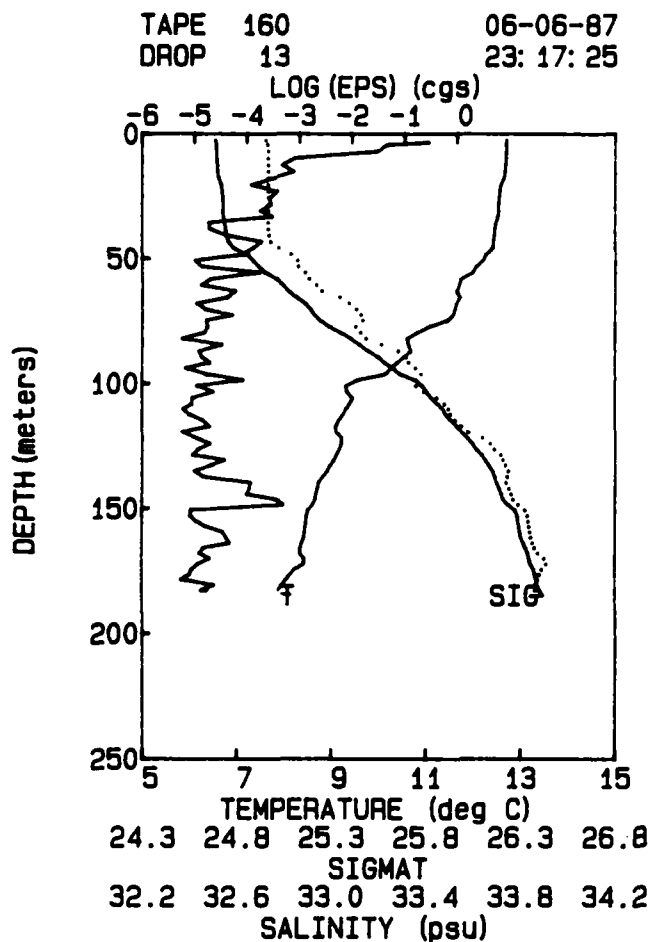


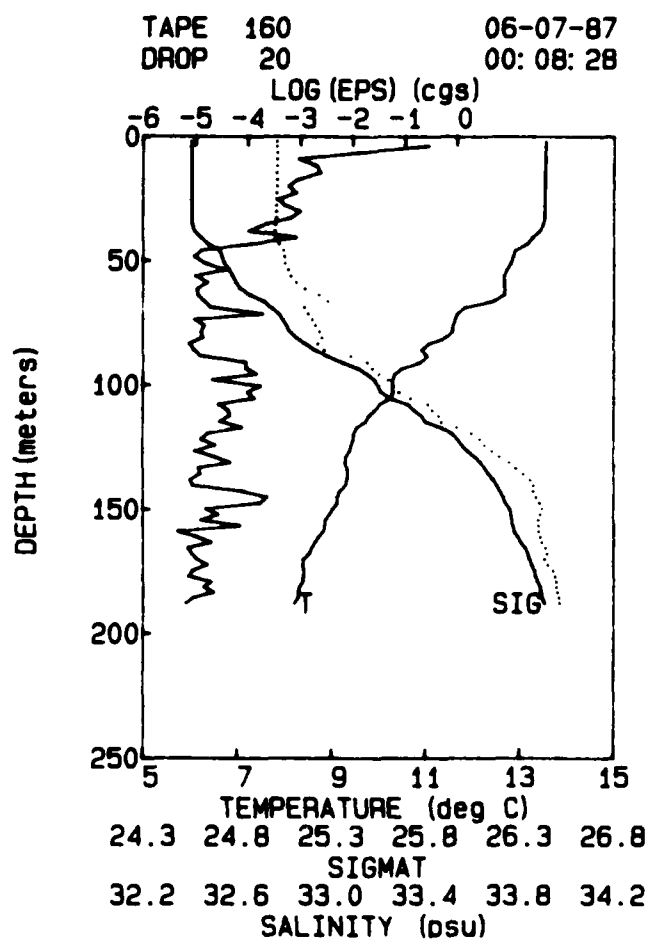
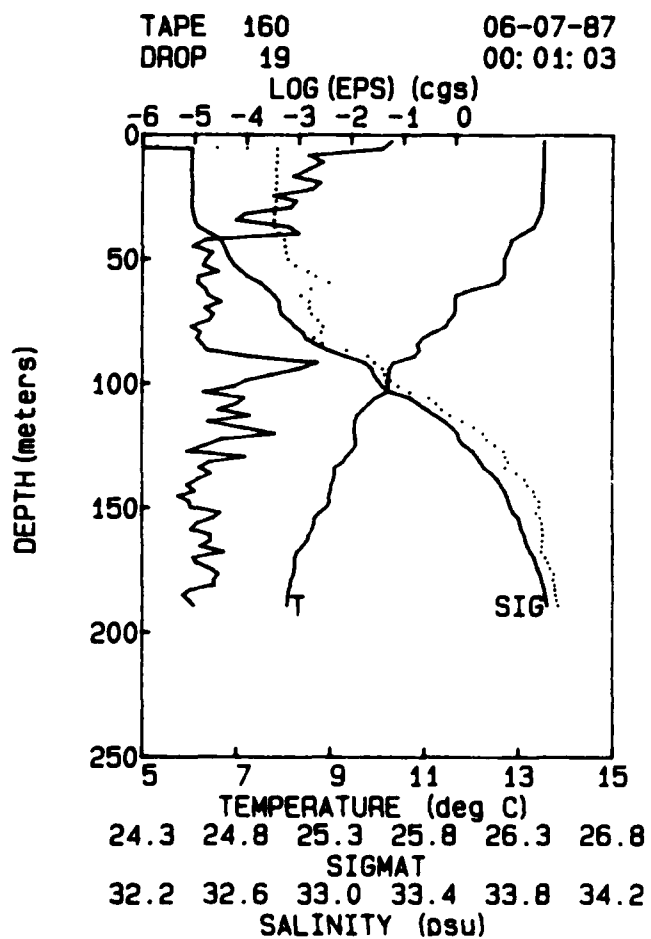
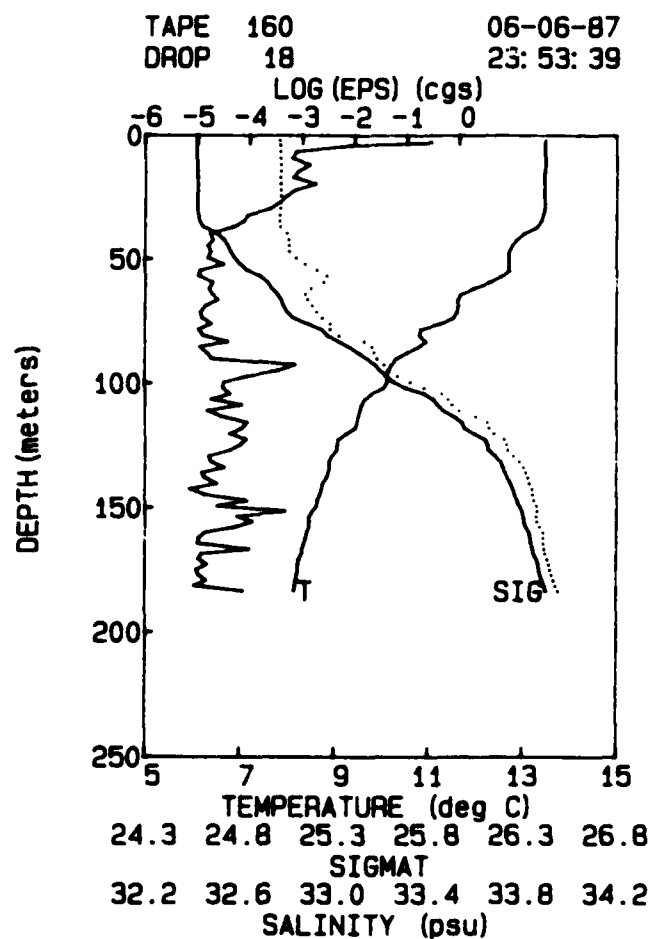
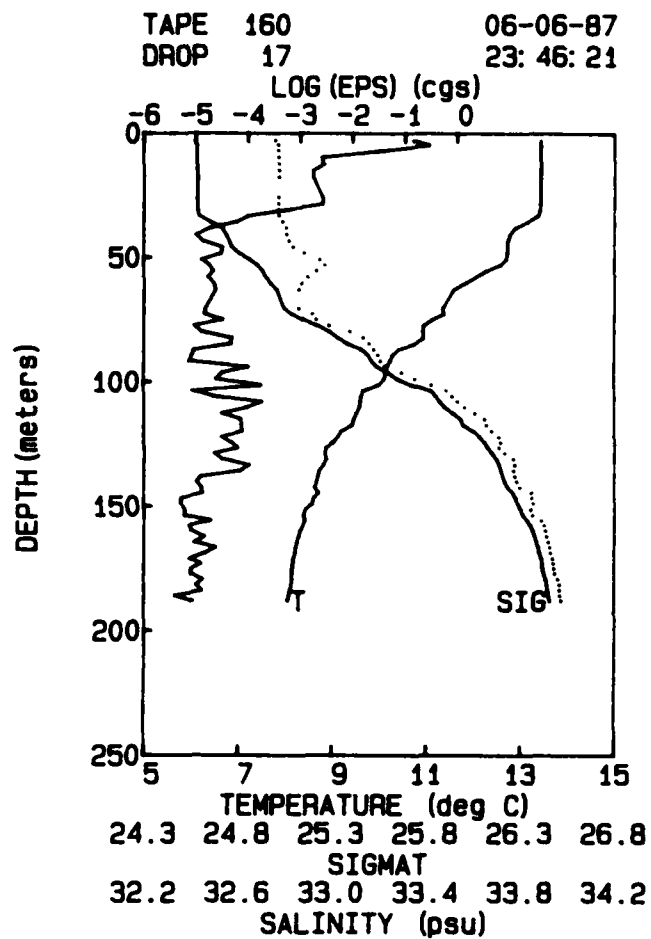
TAPE 160 06-06-87
DROP 11 23:02:38

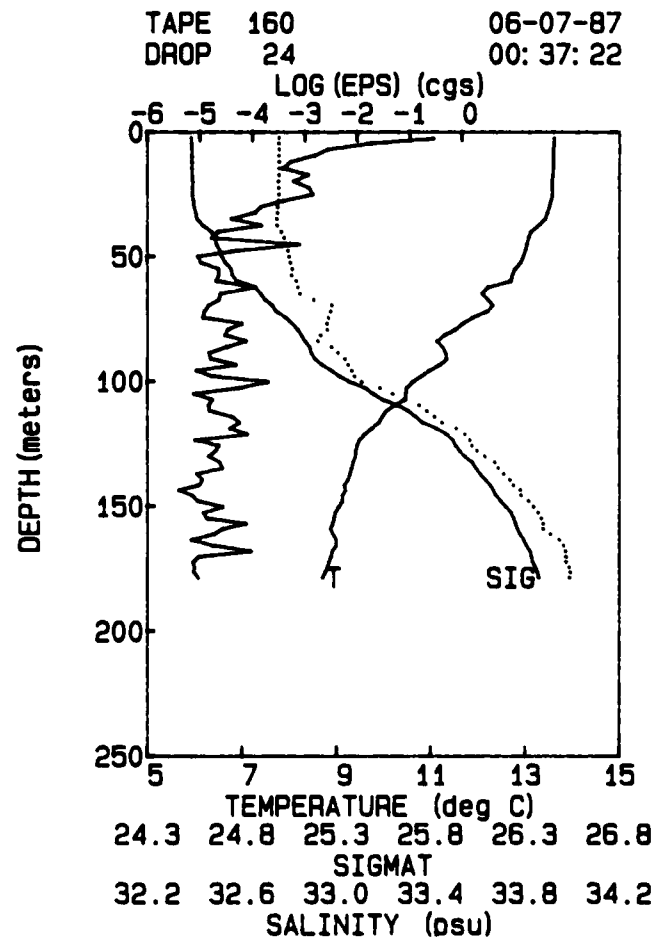
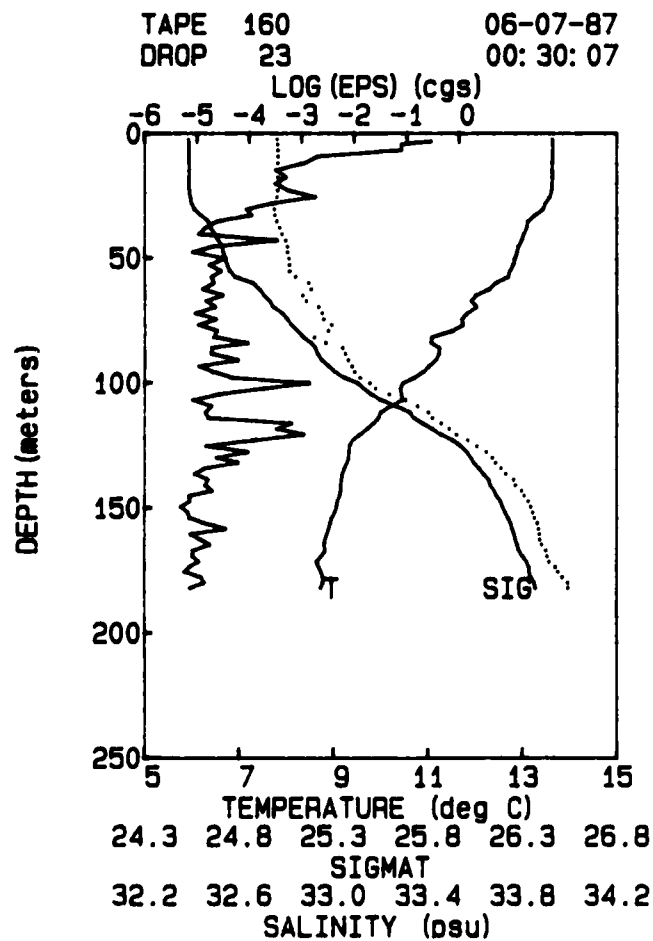
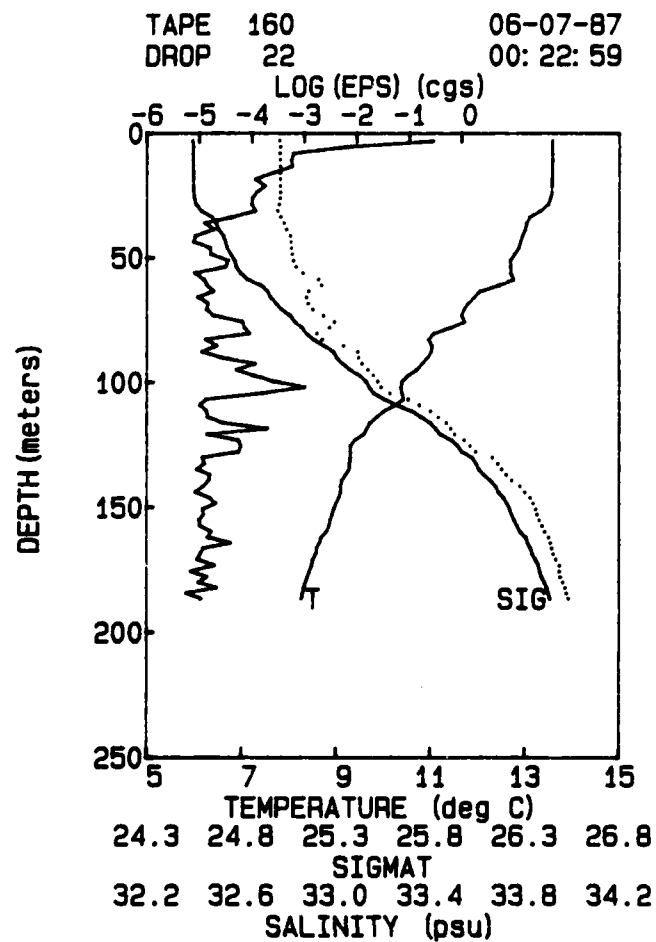
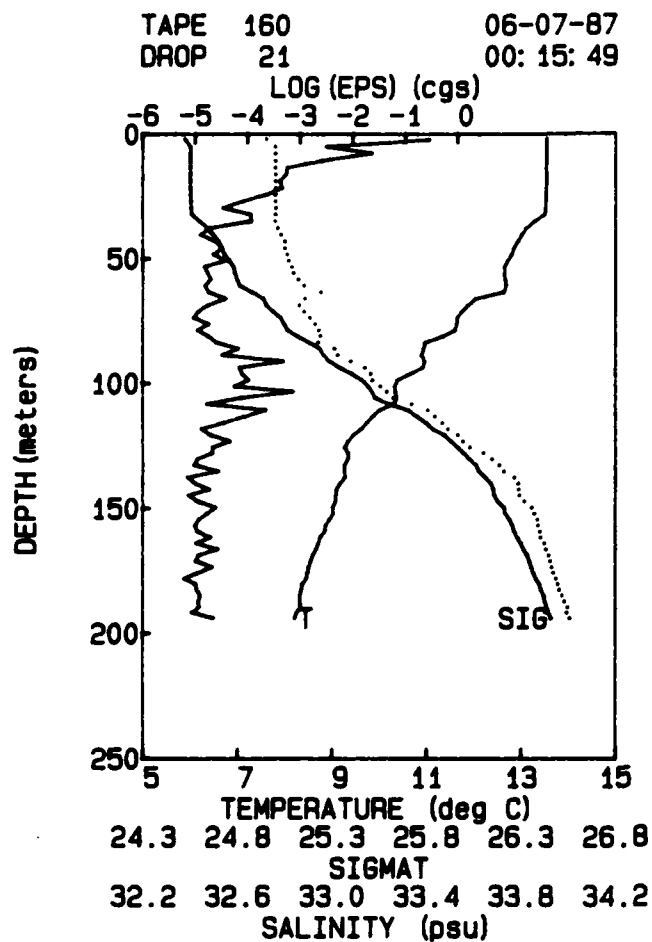


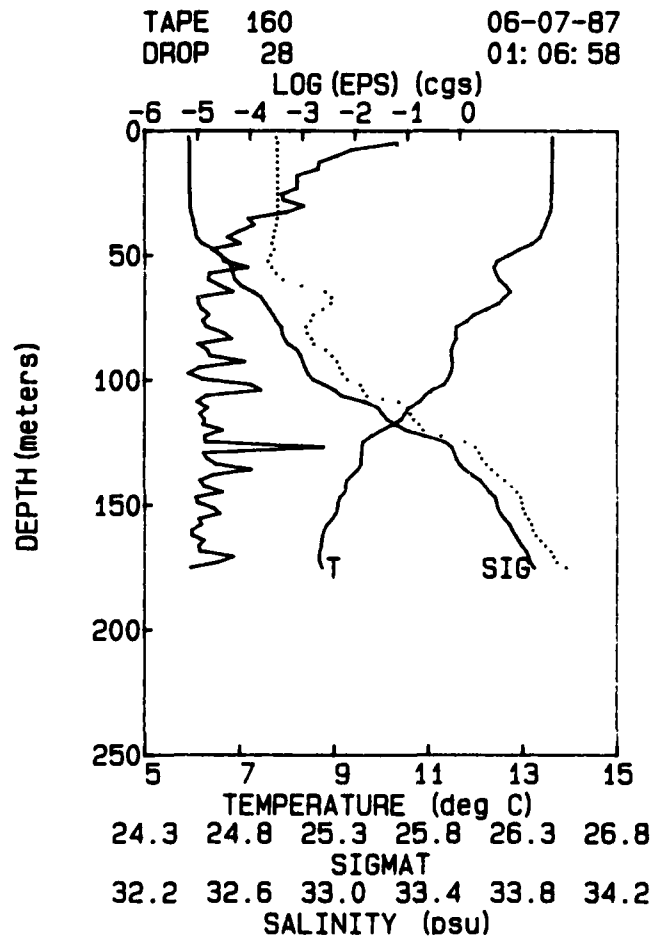
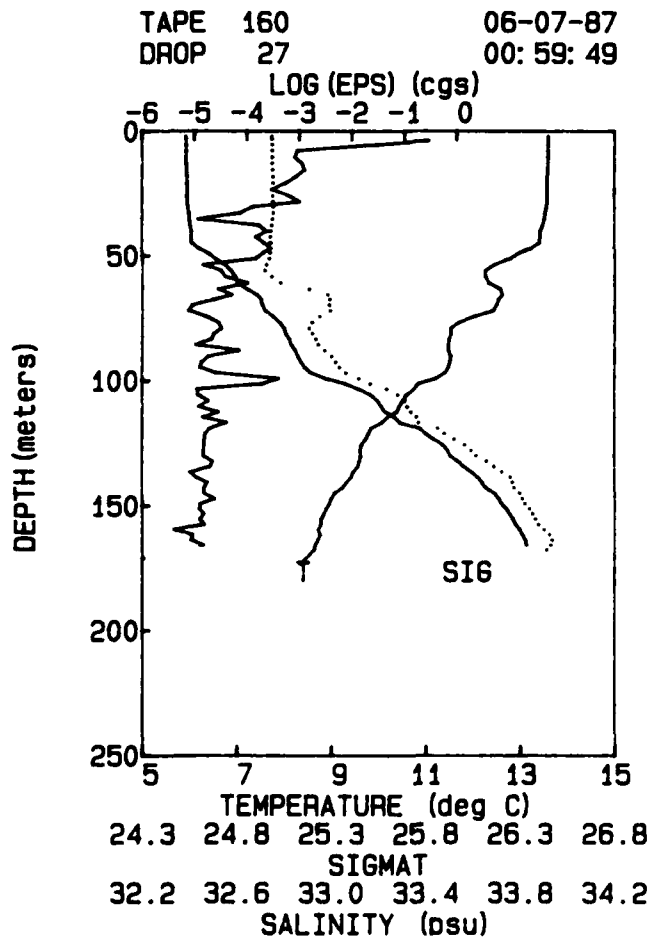
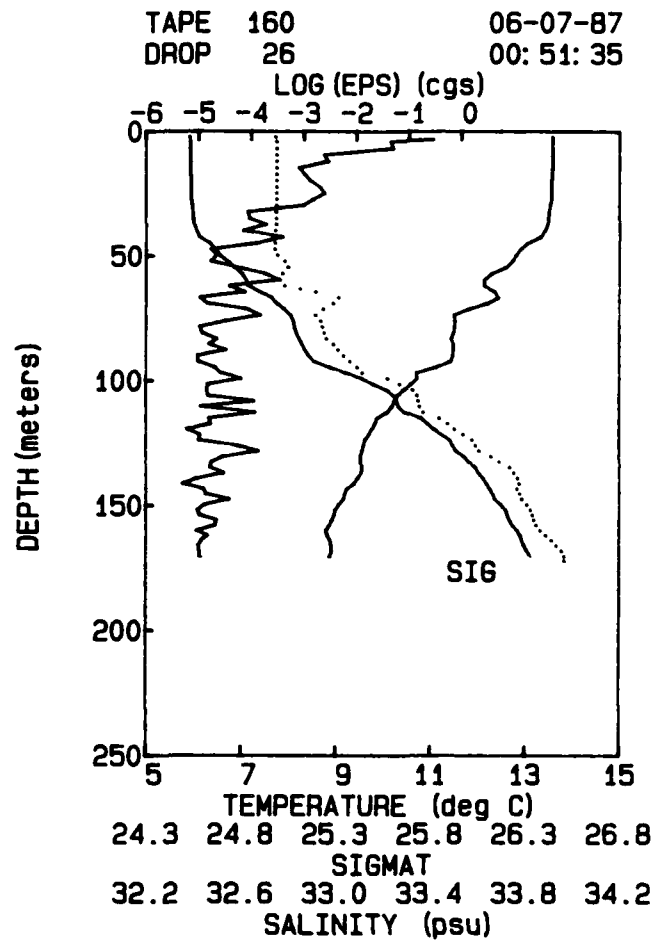
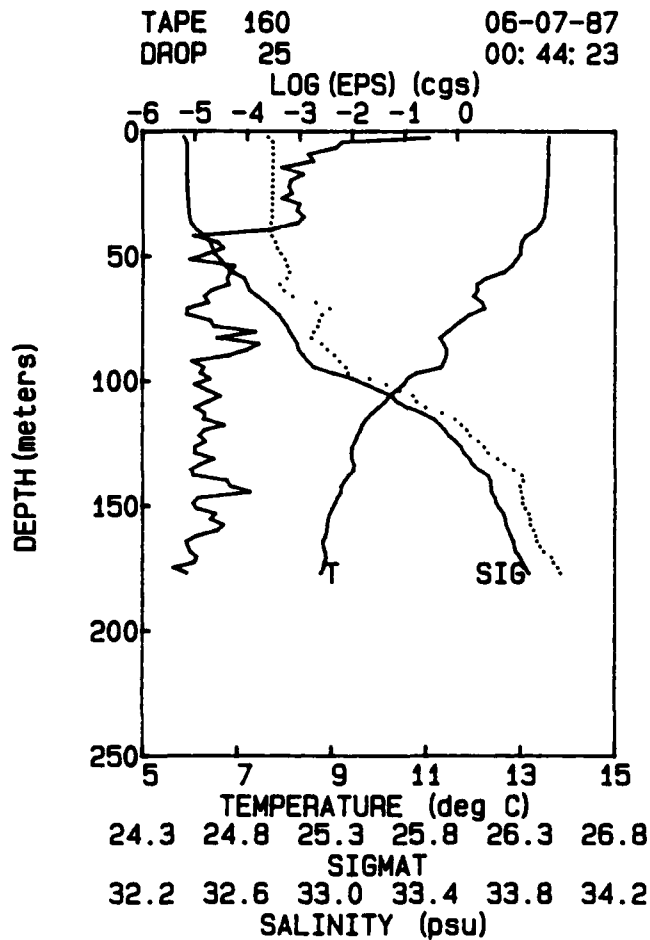
TAPE 160 06-06-87
DROP 12 23:09:47



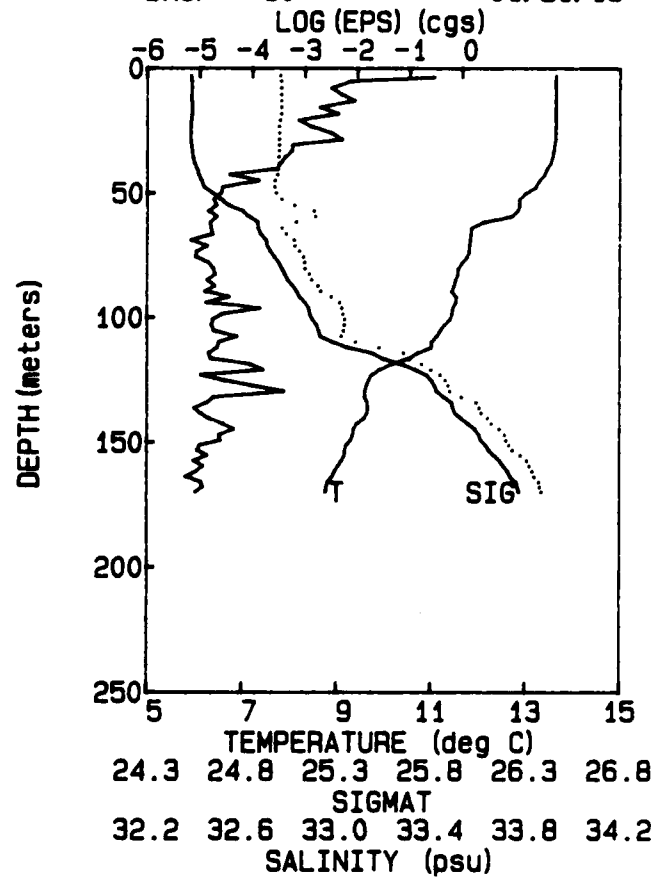




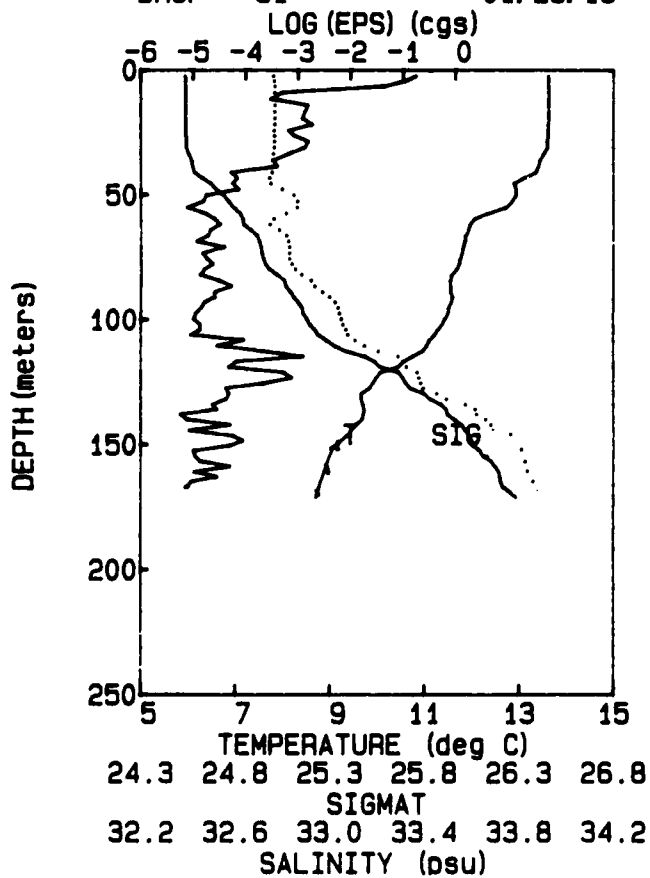




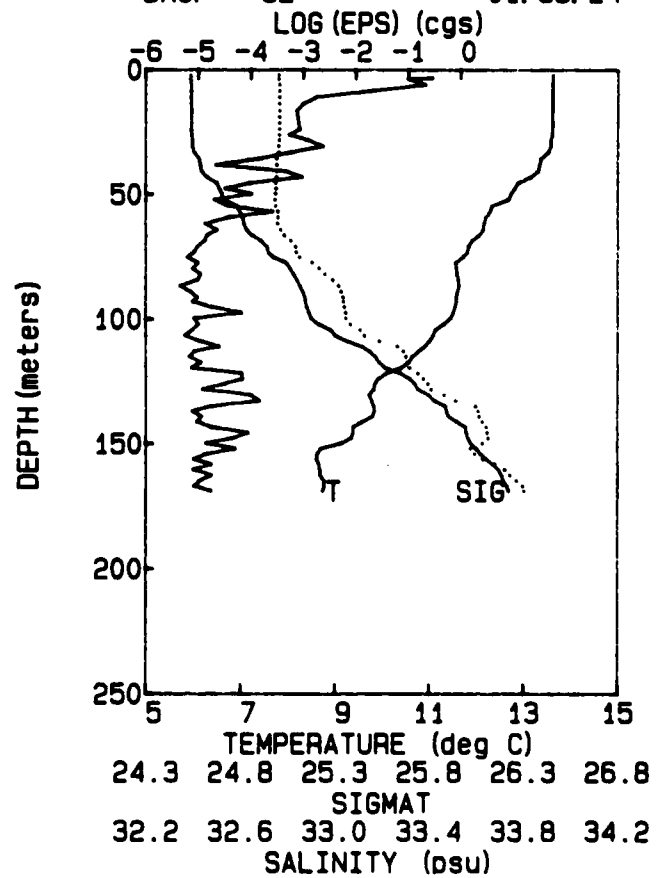
TAPE 160 06-07-87
 DROP 30 01:21:13



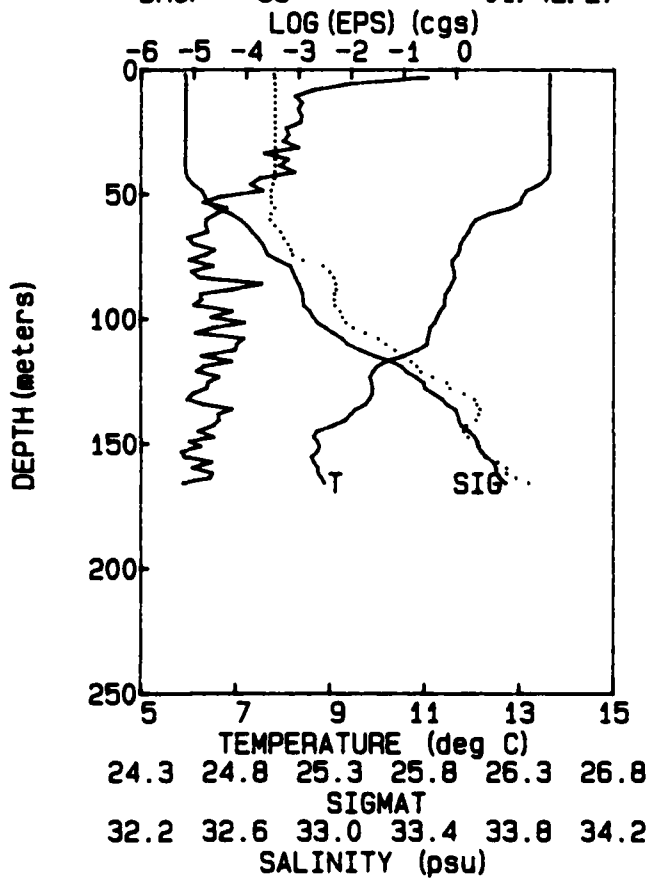
TAPE 160 06-07-87
 DROP 31 01:28:19



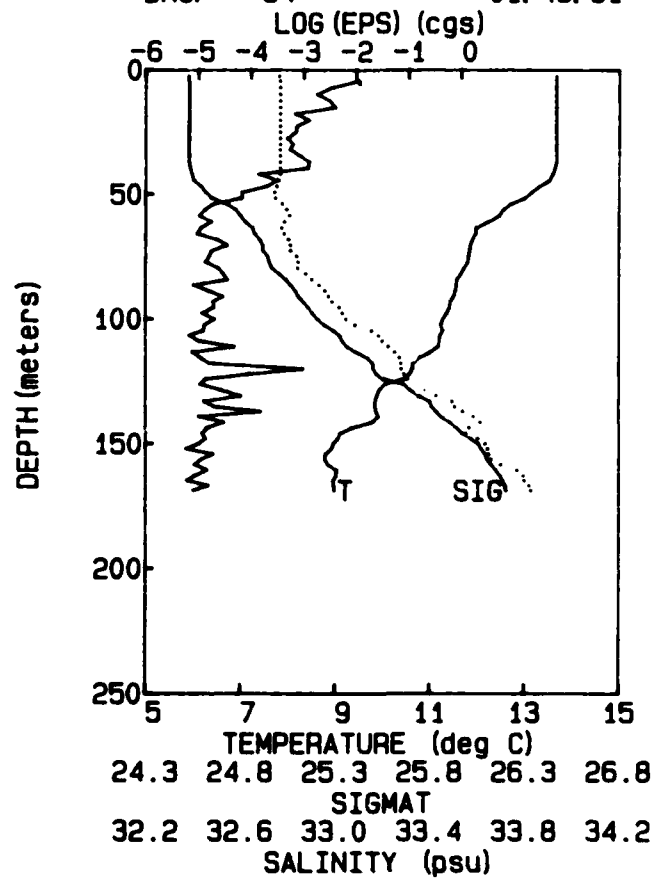
TAPE 160 06-07-87
 DROP 32 01:35:24



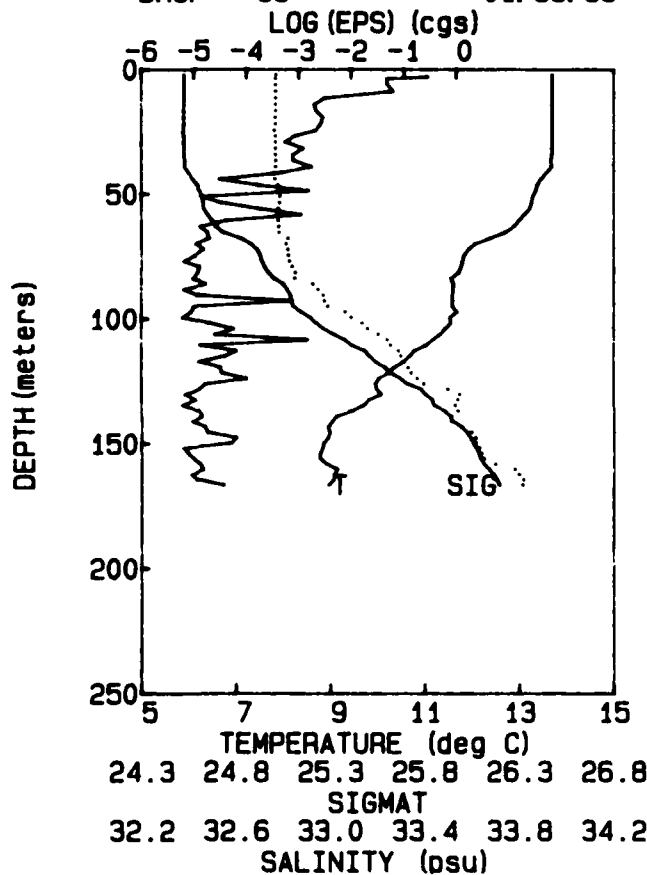
TAPE 160 06-07-87
DROP 33 01:42:27



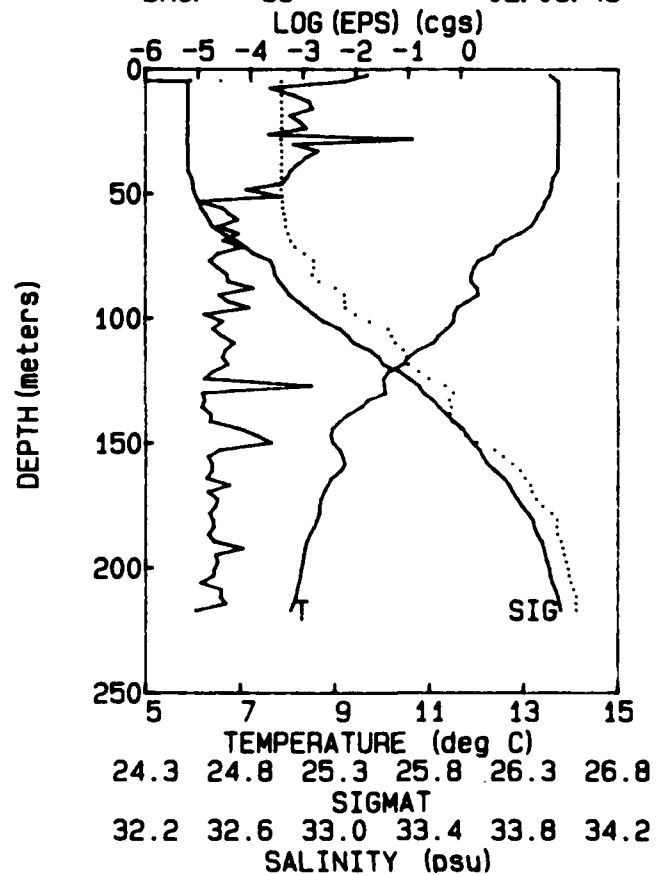
TAPE 160 06-07-87
DROP 34 01:49:31



TAPE 160 06-07-87
DROP 35 01:56:36



TAPE 160 06-07-87
DROP 36 02:05:48



END

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